THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

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QUALITATIVE REGISTRATION OF BUILDERS

IT is a fact beyond dispute that the Building Industry, between wars, has suffered severely from the inroads of unqualified persons into the trade. These *entrepreneurs* often had nothing behind them but an enterprising general foreman and a nominal capital stake of a few hundred pounds with which they proceeded to exploit the tendering system to their own ends and to the disadvantage of the established firms which were not prepared to sacrifice a reputation for solid workmanship.

This phenomenon, which was in being before the first Great War, became rife in the boom periods which occurred between 1919 and 1939, and the frequent bankruptcies of these "rake-off merchants," as the popular phrase has it, in no way compensated either the building public or the building trade (suppliers and sub-contractors as well as builders) for the trail of bad workmanship, bad debts and bad feeling which they left in their wake.

A symptom of the state into which the building industry had been forced just before the war was the series of experiments in price control of which a forerunner was a scheme operated by the London Builders' Conference. This plan, which was subsequently adopted by other organisations, attempted the control of prices by limiting tendering to selected firms of standing and then establishing a "fair price." In so far as this price was arbitrarily fixed and was not competitive in the ordinary meaning of the word, it is difficult to regard this movement as other than a desperate attempt to bring order into a disordered industry.

Such efforts, it is clear, cannot be regarded as cures of the disease, but at the best as palliatives only. What is undoubtedly required is a statutory control of entry into building based on education and proved performance. It is an idea which is not new. For many years now responsible opinion in the building industry has sought means to raise the standard of building. Federation was an early step; this was followed by arbitrary election to membership of a body with self-imposed standards, the Institute of Builders. Along with these movements technical education and apprenticeship developed, and with them a parallel set of conditions was aimed at, consisting of an extended knowledge of construction and raised standards of conduct by employers on the one hand, and on the other a heightened and extended technical skill by the operatives.

Had it been possible to develop a proper freemasonry between fully qualified architects and surveyors on the one hand and qualified builders on the other, it could have led to a situation where architects and surveyors would not invite tenders from other than qualified builders, and the latter would not work except for the former. This situation could have been immensely strengthened by the inclusion of federated operatives, who might well have declined to associate in work not under the control of qualified professional men and qualified builders. Hopes of such a freemasonry are fond, however. By reason of Architects' Registration, emphasis has shifted from the qualified architect to the registered architect, and though time will undoubtedly remedy the situation, it is not in dispute that every registered architect is not necessarily a qualified architect. Much the same situation applies to the surveying profession, the builders and the operatives—the last especially since the war.

If, therefore, the entry of builders into the industry is to be controlled on a qualitative basis, it must now take a legislative form—the basis for admission being, broadly, technical education, technical performance and measuring up to a standard of ethics. When the Minister of Works' plan for Registration of Builders was first announced it was hoped that at least the first step towards the desired end had been taken. While it may yet prove that this is indeed the case, it must be admitted that the Ministry scheme has disappointed. That scheme is quantitative only, designed to ascertain the resources of the building industry (sub-contractors engaged on site work as well as builders) in personnel and labour only. The registration form did not ask for details such as estimated capacity, available plant, length of establishment or class of work normally undertaken —all information which could readily have been forthcoming from the 105,000 firms which have responded.

The scheme, indeed, shows an official preoccupation with the labour aspect of the industry, as is clear from the facts, first, that only the amount of labour employed and not the standing, qualifications or capacity of the employers is asked for, and second, that the only condition attaching to registration is that a firm shall observe the agreed terms and conditions of employment. Moreover, there appears to be no desire on the part of the Ministry of Works to restrict the formation of new building companies, although we should have thought that with 105,000 firms already in existence there might have been such a tendency. As evidence of this, we refer our readers to a letter from the Chief Registrar, Ministry of Works (given in our issue for October 3) in reply to a specific question as to whether new firms registered at Somerset House after September 12 (the final date for registration) with the object of carrying on business as contractors were eligible for admission to the Register. The reply given was "that all companies undertaking building and civil engineering work should register under the Order irrespective of the length of time they have been established. New companies should apply for registration immediately they are formed."

The present seems an admirable time for consideration, followed by action, of the possibilities and advantages to be gained from reforming this quantitative registration as a qualitative Register. The problems of bad building and bad builders are not only peace-time in character; they exist at the present time, and the strengthening of the Register to include some provision for striking off for proved incompetence and misdemeanour would be warmly welcomed by the industry and by the public as a contribution to national morale and to the war effort. And in so far as the door is at present open for anyone—from competent technician to "black market" racketeers—to go into building as principals at the end of the war, we propose that the matter of Qualitative Registration should be remitted, for consideration and report, by Lord Reith's Central Council to a small committee consisting of representatives of the National Federation of Building Trades Employers, the Institute of Builders and the Operatives' Federation, with delegates from the R.I.B.A., the Chartered Surveyors' Institution, the Ministry of Works and the Board of Education.

Certain data are now available, and include Acts or Bills providing for Registration of Builders and Civil Engineering Contractors both in Western Australia and Eire. Neither scheme is entirely suitable for this country, but there are points in each which are worthy of consideration.

In commending this proposal to the Minister of Works, we believe we have the solid backing of the responsible whole of the industry. Registration does not seek to turn building into a closed trade but only to establish a high standard of construction and business conduct. Building, now and post-war, should have no room for those who seek only personal gain from a trade which, as a basic industry, enters into the lives of each of our fellow countrymen.

NOTES AND NEWS

Curtailment of U.S. Building.

A DECREE which drastically curtails building in the United States has been announced. Issued by the Supply Priorities and Allocations Board, the decree forbids the start of any public or private construction requiring the use of materials essential for the nation's defence, or for public health and safety, for the duration of the present emergency.

This applies to power, navigation and flood control projects, office buildings, post offices, hotels, highways, and residential construction.

Leverhulme Research into Reconstruction.

THE group working under the Leverhulme Trust on research into reconstruction in Hull have commenced working on the preparation of a planning survey of existing conditions in housing, social services, transport, and location of industry in the City and Port of Hull and its region, with a view to putting forward proposals for its post-war planning and reconstruction. In this they have the co-operation of the local authority, the Ministry of Works and Buildings, and the Ministry of Health. Their present work is confined to a land utilisation survey of the city. The members of the group are Mr. Max Lock, A.R.I.B.A., head of the Hull School of Architecture; Mr. B. A. Le Mare, A.R.I.B.A.; Mrs. R. Bronowski; and Mr. Peter Nicoll. The group is also working in close association with the Nuffield College Social Reconstruction Survey under the University of Hull, Mr. Lock being the group's representative on this committee.

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L.C.C. Zoning Proposals.

THE London County Council have decided that no further applications for alteration of the Council's tentative zoning proposals shall be granted until after the war.

Replanning Appointment, Clydebank.

SUBJECT to the approval of the Department of Health for Scotland, the Clydebank Town Council has appointed Mr. Sam Bunton, A.R.I.A.S., of Glasgow, as consultant to undertake the preparation of a town-planning and reconstruction scheme for the borough.

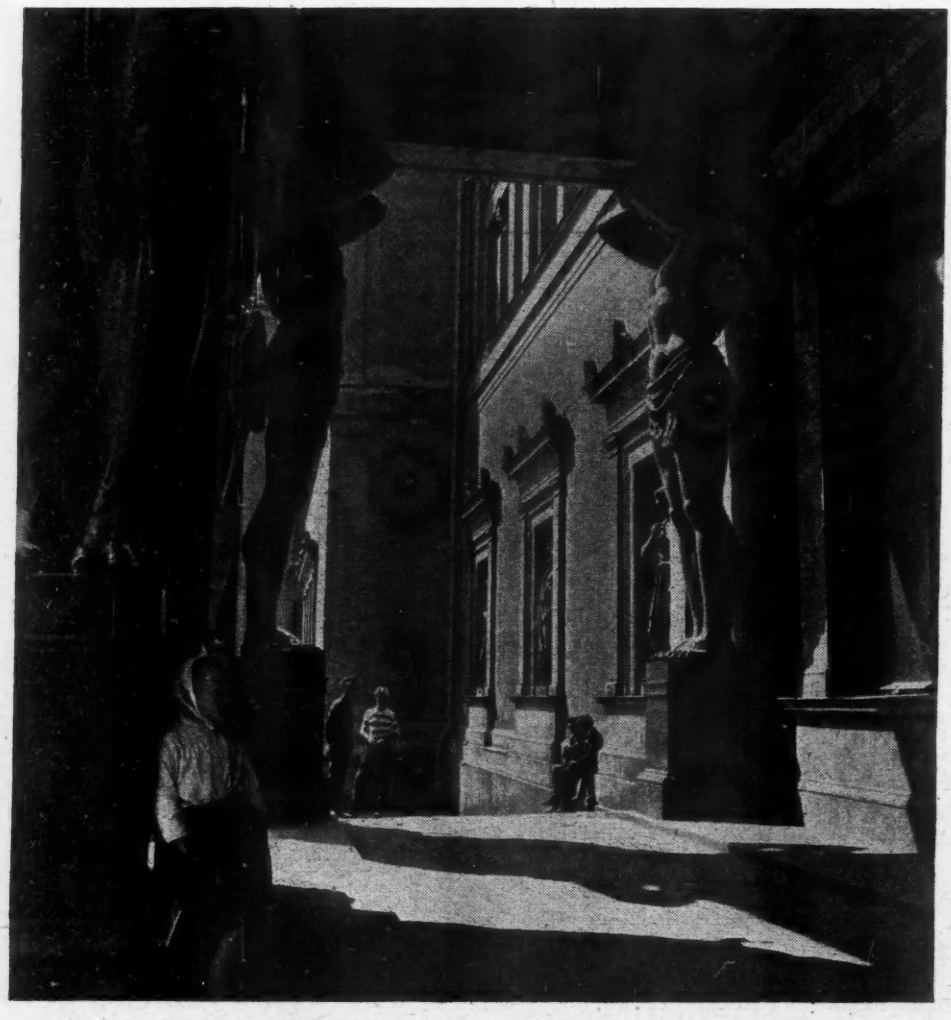
Post-War Building in Germany.

THE question of post-war building in Germany is already causing the Nazi party some anxiety. From information received from within Germany it appears that a very large contingent of foreign labour is now employed in the German building industry. This is inevitable as the German war machine swallows up more and more men of military age. From the occupied countries more labour is either forcibly deported and transferred to Germany, or else pressure is brought upon unemployed persons to volunteer. From France and Belgium large numbers of men have been drafted into the building and metallurgical trades. One method of applying pressure in Belgium and Holland is to withdraw insurance payments, and even ration cards, from those unemployed persons who fail to volunteer.

It may well be hoped (writes a correspondent) that after this war the Americans and ourselves will be less sentimental about the German building industry than we were 20 years ago. It is sometimes forgotten that the Weimar Republic, which ruled Germany years before Hitler came into power, was mainly responsible for the new Town Halls, Hospitals, Public Libraries, Sports Grounds, Housing Estates and Railway Stations which the Nazis claim as their creation. It is also forgotten that financiers in London and New York lent the various German municipalities large sums of money in order to build. According to Dr. Hjalmar Schacht, the former President of the Reichbank and Minister of Economics, "during the period 1924-30, the immense sum of more than £2,000,000,000 was advanced to Germany by foreign creditors."

An L.C.C. Retirement.

MR. C. F. BARTHOLOMEW, F.S.I., a principal assistant in the architect's department, has retired from the service of the London County Council under the age rule. He entered the Council's service in 1913 and attained his present rank in 1937. The General Purposes Committee states that "during the whole of his service he has been employed on measuring surveyor's duties, which he has discharged in a most able manner. He has rendered valuable service."



THE HERMITAGE, LENINGRAD. Begun by Catherine II, these buildings were completed by Nicholas I in 1852, and now form a Museum. They cover an area of ground about as large as the Louvre. The granite caryatides are each about 20 ft. high. The photograph is by Mr. F. R. Yerbury, Hon. A.R.I.B.A., and is from a recent exhibition of Russian architecture. (See page 380.)

IN 1916.

FROM *The Builder*, OCTOBER 20.

"There never was a time in our history when it was more important than at present that in the national interests there should be a strong and virile race of architects, properly organised and well equipped at every point for the great duties they will be required to undertake, understanding the watchword of the age in which they live and expressing in their designs the modern life.—*Mr. John Bradshaw Gass in his presidential address to the Manchester Society of Architects.*

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

"Architectural Organisation."

To the Editor of *The Builder*.

Sir,—With reference to your editorial comments on my contribution on "Architectural Organisation," you offer a suggestion which I submit should be negatived at all costs.

"Alternatively," you say, "a new society might be run by the existing headquarters staff and housed in the R.I.B.A. building, whose accommodation and other advantages might otherwise be rather wasted."

Should this suggestion materialise, it would defeat the very purpose for which the premises were presumably erected, viz., to be a common centre and meeting place for every architect and architectural society in the kingdom comprising the R.I.B.A. Furthermore, it would give rise to the danger of a very undesirable monopoly of premises which have been subscribed for by the majority of architects.

Should decentralisation be decided upon, the accommodation and other advantages, far from being wasted, would be utilised to the fullest extent. I would venture to predict it might be hardly sufficient for the administrative staff of the reconstituted R.I.B.A. fulfilling the proper interpretation of the term.

The word "inclusive" should read "exclusive" in the passage: "There are at present 33 Committees inclusive of those connected with the Board of Architectural Education." I believe I am right here, but the actual number can be checked by reference to the Kalendar R.I.B.A.

N. Martin Kaye.

Mansfield, Notts.

*** It is difficult to follow our correspondent's reasoning. The headquarters premises are at the present time chiefly used by Metropolitan members, but are not any the less "a common centre and meeting place for every architect and architectural society in the kingdom comprising the R.I.B.A." The formal establishment there of a society of Metropolitan members would at once meet the criticism that London architects do not belong to an Allied Society, but would not involve any greater monopoly of the premises by London members than exists at present. We fail to see how the closing down of the ordinary general meetings, which would be the chief effect of Metropolitan members meeting as a separate society elsewhere, would conduce to the fullest use of the premises in Portland-place. The effect, in our opinion, would be exactly opposite.—Editor.

The Central Register—Ministry of Labour and National Service.

To the Editor of *The Builder*.

Sir,—The Central Register was formed by the Ministry of Labour and National Service, and all architects were invited to fill in a record card giving particulars of experience and qualifications. From this pool of information it is possible to select applicants for suitable vacancies, but it was never intended that the Register would be used to prevent anyone trying to better his position. Reports are circulating that this is happening, and if so, then the register is being misused to keep salaries down and assistants tied to low-paid jobs.

A case has recently occurred in one of the London boroughs. An architect was engaged on a temporary basis at a nominal salary subject to a week's notice on either side. When filling in the enrolment card of the Central Register he specifically requested them to find him a post on outside supervision commensurate with his experience. Such a position became vacant and the Registry made him a very good offer which was accepted. He was amazed when the Borough Engineer wrote to the Central Register declining to release him, though the salary offered was over 60 per cent. higher. The matter was referred to the A.A.S.T.A, who pointed out that the Borough Engineer had no power to stand in the way of advancement.

This is not the purpose for which the register was created, but if it acts in this way members will lose faith in its probity. It seems that the matter should receive early attention for a vital principle is involved. We have not reached a totalitarian state *yet*, but are not far off it. This tyrannical control of salaries must cease.

Judex.

The Future of the Building Industry.

To the Editor of *The Builder*.

Sir,—In reply to "Roman Builder" in your issue of October 3, I think the first stage towards improving the future condition of the industry is to remove the wrongs of the present. One of these is that, owing to the unfair allocation of Government contracts, a large percentage of the operatives is now controlled by the few large and favoured firms. The elimination of the smaller firms is being carried out in true totalitarian style, and it will not be long before the whole of the industry is in the hands of the few firms selected by the Government Departments.

In spite of many protests made by the smaller firms about this discrimination, the vicious circle still continues, and it is now frequently alleged that the Government Departments are making a practice of recommending the names of their favourites to clients who have large contracts under consideration. "Unto them that have more shall be given" seems to sum up the position.

It is nearly too late to talk of reform, nor will there be any until we can find a Churchill to break up the vicious circle. I consider that all inquiries in connection with proposed contracts should be submitted in the first instance to the Regional Secretary of the Federation in whose district the work is to be carried out—whether Government or private schemes. He would then circularise the members of the Federation and advise the authority concerned regarding the firms most suitable and able to tender for the work. It is the lack of opportunity to tender and the reflection it casts on their ability and experience which cause so much bitterness among building firms.

If a list could be compiled of all the builders who have applied to the Government Departments during the last three years to be given an opportunity to tender for their contracts and who have been denied this opportunity, it would prove conclusively the reason why there is so much dissatisfaction in the industry to-day.

Another wrong which should be righted is that the industry wants purging of the financiers and gamblers who look upon it as an open door to getting easy money. It is usually the way of the world to judge a man's success by the amount he has accumulated; the manner in which it was accumulated is rarely questioned. Money is the god which is worshipped, and those who have it seem to think they are the only ones privileged to guide the industry, ability and integrity being only side-issues. These conditions are not new, otherwise the psalmist would not have written "These are the ungodly, these prosper in the world and these have riches in possession"! Get the industry clean of undesirables and there might be some chance of its becoming a healthy industry.

With regard to estimating, I hope this will continue because it is one of the most important qualifications a builder should have. The reason why so much "midnight oil" is burned is that generally there is not sufficient time allowed in which to make up the estimate or that builders are greedy and want to go in for too many jobs at a time. If more builders were experienced in estimating there would not be so many silly prices submitted. But estimating is real hard work; it needs considerable experience and much concentration, and any builder who does not know this side of the business is in the nature of a gambler; he puts in a price and hopes for the best! This has been the curse of the industry in the past.

Now let us have a look at the part the trade unions should play in future development. I think it is time the officials took some real interest in the skill of the operatives and that a fair day's work is given for a fair day's pay. Their chief concern up to now has been to see that the employers are paying the proper rates and observing the correct working hours. It is up to them to take a greater interest in the welfare of the apprentices and to see that they become skilled and useful members of the industry.

As regards rates of pay I suggested in a letter which you published in your issue dated April 4 last, that there should be two rates. At present, as soon as an apprentice has finished his time he is entitled to the same rate of pay as a man who has spent many years in the industry. I think this is wrong, because there is no incentive to improve except for the chance of becoming a foreman. In one branch of the Army I believe they have four rates of pay with periodical examinations to qualify for the next higher rate. Now this encourages men to improve their knowledge and skill, and gives them something to work for. I am sure some such system would prove a real benefit to the industry, and I hope the trade unions will consider it.

Progressive.

COMING EVENTS

Friday, October 24.

A.A.S.T.A. Dance and Cabaret. 20, Hand-court, W.C.1. 7 p.m.

Tuesday, October 28.

Architectural Association. Mr. John Summerson, A.R.I.B.A., on "The place of 'Preservation' in a Reconstruction Programme." At 34, Bedford-square, W.C.1. 2.15 p.m.

Housing Centre Lunch. Mr. E. C. Kent, L.R.I.B.A., on "Densities for Residential Planning." At 13, Suffolk-street, S.W.1. 1 p.m.

Tuesday, October 28—November 14.

Architectural Association. Exhibition of Members' War-Time Sketches. At 34, Bedford-square, W.C.1.

Saturday, November 8.

The Ecclesiological Society. Mrs. J. D. Ellis, M.A., on "Property and Parish Boundary Marks." At 6, Queen-square, W.C.1. 2.30 p.m.

A.A.S.T.A. Annual General Meeting. At University of London Club, 21, Gower-street, W.C.1. 2.30 p.m. Presidential Address by Colin Penn, A.R.I.B.A.

Sunday, November 9.

A.A.S.T.A. Conference on War-Time Building. At University of London Club, 21, Gower-street, W.C.1. 11 a.m. Address by Richard Coppock, L.C.C. 2 p.m. Address by Prof. J. B. Bernal, F.R.S.

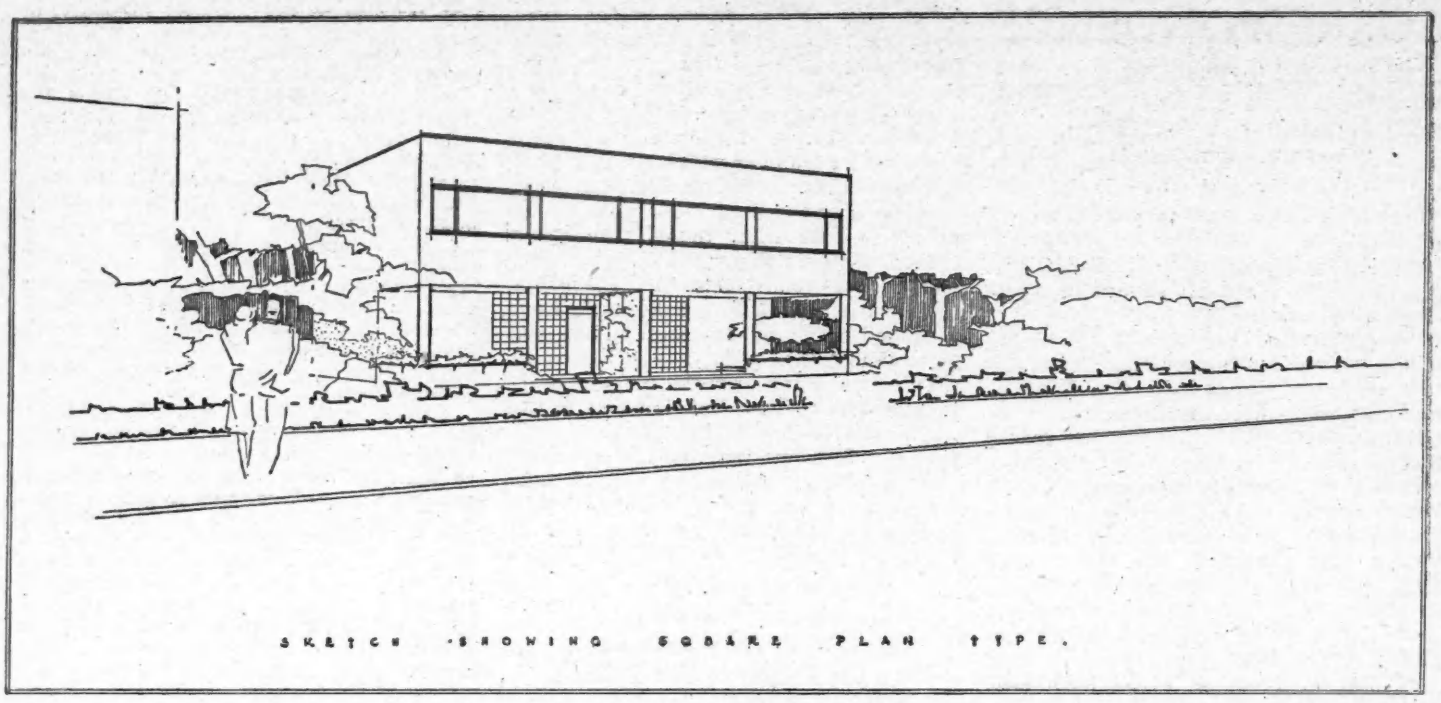
OBITUARY

Alfred Gilbertson, L.R.I.B.A.

The death has taken place of Mr. Alfred Gilbertson, who designed many churches and schools in the Liverpool Archdiocese, especially during the episcopates of Archbishops Whiteside and Keating. Mr. Gilbertson was elected L.R.I.B.A. in 1910.

Denis Chappell, A.R.I.B.A.

We regret to record that Sgt.-Pilot Denis Chappell, R.A.F.V.R., previously reported missing, is now officially believed killed in action and buried at Wilhelmshaven. Mr. Chappell, who was 25, was elected A.R.I.B.A. only last year.



SKETCH SHOWING SQUARE PLAN TYPE.

BUILDING PLASTICS

A SCOTTISH DEVELOPMENT

By SAM BUNTON, A.R.I.A.S.

EDITOR'S NOTE: Mr. Bunton, who has been investigating Plastics for the past two years, is Chairman and Consulting Architect of an organisation in Glasgow concerned with research on building plastics. Recently he has been lecturing on this subject, and the Scottish Special Housing Association, Ltd., Edinburgh, impressed by the possibilities of the scheme, have requested Mr. Bunton to prepare plans, specifications and details of proposals for submission to the Department of Health for Scotland. If approval is obtained, it is intended to proceed at once with the erection of an experimental block of houses.

It has been commonly stated that war is responsible for social and scientific advancement which, under normal circumstances, would never have been possible. This is undoubtedly true, but it is greatly to be regretted that the aftermath of past wars has hardly ever fulfilled the promises of those forecasting the future of new and better conditions for the people.

It is clear, however, that a change is due, a change which will mean a complete and revolutionary alteration in the lives of the working people of this country. The most important condition essential to a happy life will be the aim of all who are sincere in their desire to contribute towards human progress, namely, the creation of homes and environment of beauty and brightness.

All the elements of happiness, hope and achievement exist only in conditions of cheerful, spacious and comfortable habitations. Therefore our obligation is clear—planning for the people for the future. The creation of a new plan for living, achieving fulfilment of the highest standards of habitability, facility, colour and design, but most important of all in speed far beyond anything so far conceived, is needed.

The homes of the post-war period will lose a high percentage of value unless we constantly use the expression and forever keep it before us, namely, life and home for all in our time. Such, then, is the problem, and we are obliged to consider in what way we can find the solution.

Traditional methods of building construction will undoubtedly play their part. It is also satisfactory to record that progress is taking place in the concrete field relative to the proposals and research work carried out by Mr. Ove Arup in his Cross-Wall System.* This method will be one vitally connected with the post-war reconstruction, and speedy building will undoubtedly result. One can visualise the satisfactory effects which will be achieved by the cross-wall where the box spaces will be infilled with prefabricated plastic panels and other materials suitable for prefabrication. Timber, steel and aluminium will also play their part, causing interest both in the nature of their design and material characteristics.

*See *The Builder*, July 4 and September 12, 1941

The Realisation of Aims.

How far can we look to this imposing array of methods to ensure realisation of our aims? Bearing in mind the colossal obligations of the building trade, what, in addition to making good the loss of housing and public building by enemy attack, is to make up the deficiency which ordinarily would have been in progress had war not intervened? It is clear that something new is essential, something vital and revolutionary.

At this point we can introduce the plastics industry as a means of assisting in the essential works of reconstruction. The world has for long enough been conscious of the potentialities of plastics, particularly the production of luxury and decorative products. Even in this country many must have been conscious of the beauty and attraction of such articles. How satisfactory, therefore, to bring to the house the same beauty and appearance, the most important of worldly possessions.

This could not only be a contribution of note to our construction effort, but be the means of establishing a new era of industry for many thousands of our citizens who in normal times knew not the security of steady employment, but lived in the dreaded conditions associated with the designations "casual or unskilled workmen."

As well as planning for life, we must plan for the means to maintain and enjoy life. Vital creative industry is clearly essential for the maintenance of the people.

Therefore, it is satisfactory to record that research work over a period of two years has been conducted towards the establishment of total plastic housing. It is also satisfactory to state that progress is being achieved, and that plans are in the process of preparation, based on researches referred to, for submission by the Scottish Special Housing Association to the Department of Health for Scotland. This decision was taken after the writer had lectured to the Association, an organisation created by the Government to assist local authorities in Scotland by the development of alternative methods of building construction. If approval is forthcoming, an experimental house will be commenced from which it is anticipated much will be learnt and progress will result.

Building with Plastics.

The aim behind this period of research has been to establish methods of building achieving total plastic construction, and also for the manufacture of plastic building components to replace those normally provided by timber and steel.

In this connection, it has been possible successfully to ensure the production of windows, doors, door frames, window sills, lintols, skirtings, complete stairs, roller shutter laths, floor slabs, roof slabs, external and internal flat and corrugated sheeting. This is satisfactory, but is rather insignificant compared with the claim made, whereby there can be produced structural plastic sections capable of discharging the obligations of load-carrying members similar to traditional materials.

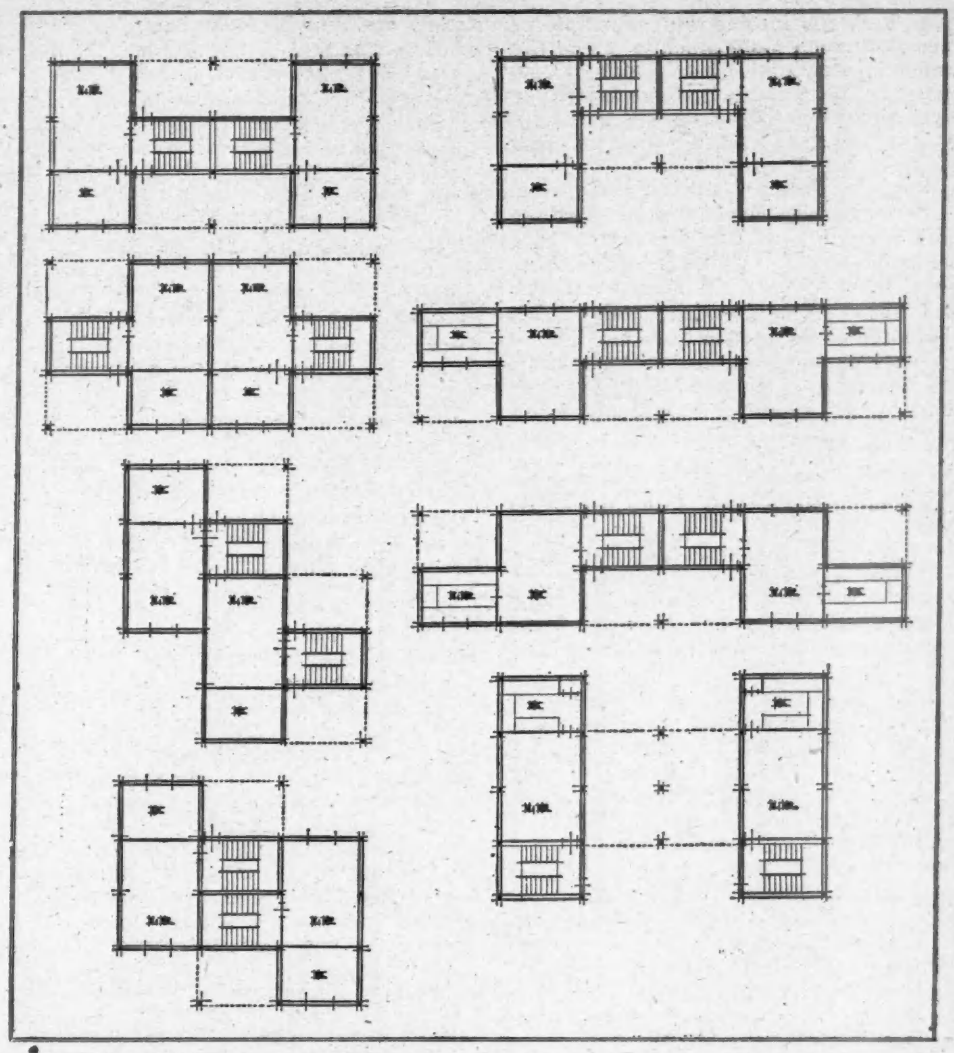
It is, therefore, possible to procure plastic stanchions, beams, purlins, etc., and thus there is established a structural method of plastics building technique. The material, because of its characteristics and particularly on account of its lightness and ease of handling, permits of precision manufacture of prefabricated sections in the workshop, all ready for transportation to the building site. For

obvious reasons, it is not possible wholly to reveal the nature of the materials and method of manufacture. High mechanical strength and dimensional stability, the essential characteristics of structural bearing plastics, demand the use of thermo-setting phenolics. Strength, of course, is secured principally from the nature of the filler material or reinforcement, and it is sufficient to explain meantime that material chosen for this purpose is most plentiful and of a definite waste or scrap quality.

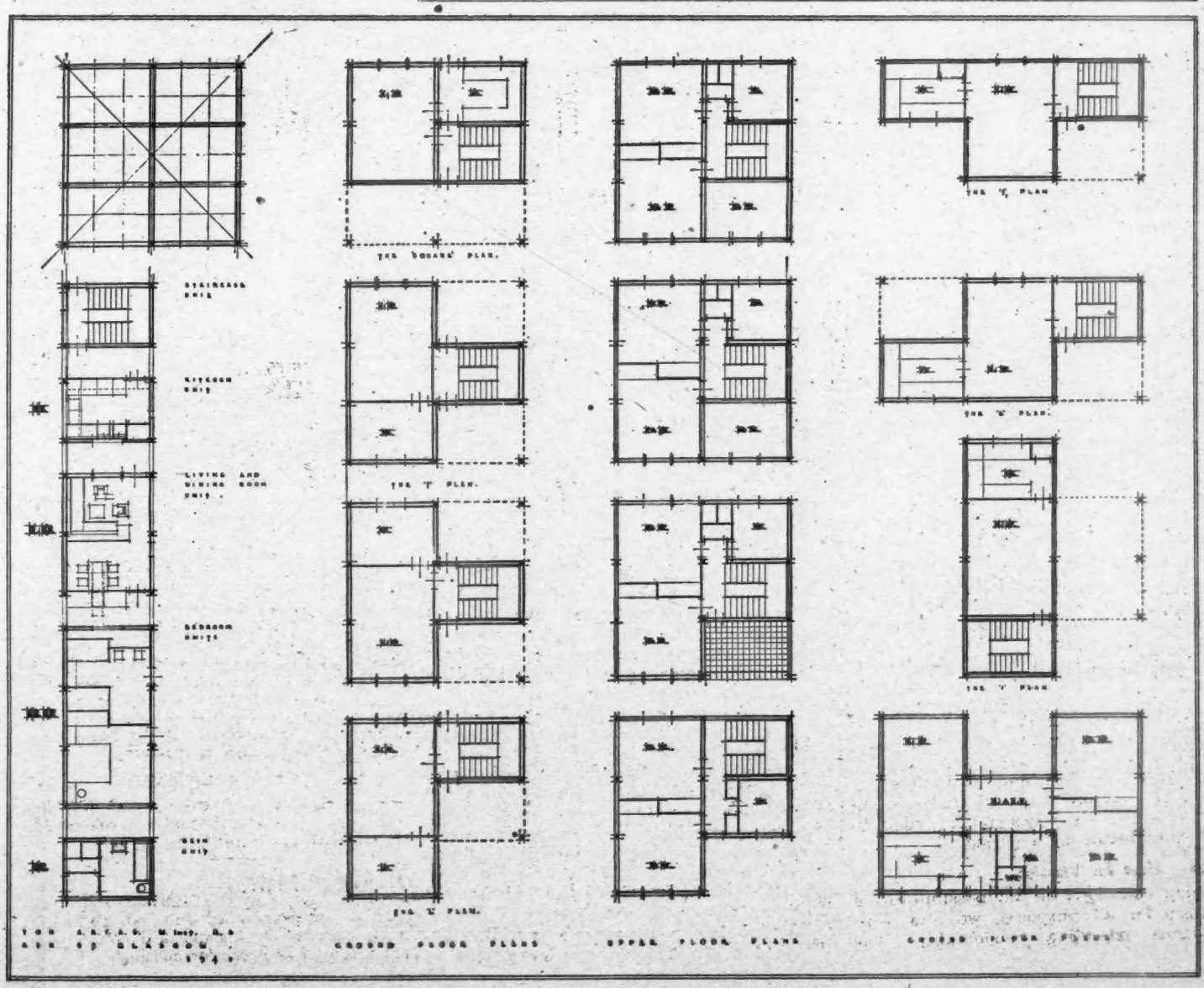
A Review of Standards Needed.

In applying this material to design, it is essential to achieve efficiency in the use of standardisation. Should a new material be available for building purposes, close association must be maintained with improvement in all possible directions. To this extent we are obliged to consider the standards of habitability which formerly existed and which were normally applicable with traditional methods.

Are we satisfied, for instance, that sufficient living space is allowed by Act of Parliament? Is sufficient consideration being given to equipment, efficiency, and finish? If not, let us advance now, because it is rightly anticipated that under conditions of mass production, plastic houses will be comparable in cost with, if not cheaper than, other methods of construction; also it is important to point out that speed of erection will be far in excess of traditional methods. Therefore, substantial savings will accrue to local authorities arising out of the reduction of interest charges on housing



COMPOSITION OF STANDARD UNITS.



loans, etc., and income returns will be in operation much more quickly. From the economic viewpoint, this is satisfactory, and it is thus possible by these savings to make provision for better and more up-to-date external finish and internal equipment.

From the design viewpoint, many arguments have been levelled at standardised unit planning on the basis that such methods would result in monotonous repetition. We are thoroughly satisfied and now believe that the fundamentals of simplicity are productive of the highest conceptions of design. No greater guarantee of simplicity could possibly be secured than by the adoption of standard units.

The Illustrations.

For purposes of interest the accompanying illustrations display a unit design for plastic homes based on the use of a standard panel calculated in size for ease of handling and also for limitation of span to sizes within easy control of the plant production capacity. The units are shown separately. They are also shown in composition.

They effectively illustrate how variety of shape can be secured. By experiment it has been proved that almost limitless compositions of form can be obtained, and, in addition, difficult road frontages and sites can be more easily treated owing to the ease and flexibility with which these units can be joined together. They also substantially solve the problems of aspect. Add to this the vast colour potentialities of plastics and we find, contrary to the creation of monotonous design, that without effort, and by the utmost simplicity, many types of interesting designs have been achieved.

Colour is something which we have needed and sought for generations. The influence of colour, particularly in the establishment of atmosphere and brightness, is quite unassessable in the calculation of values. It is definite that research will make available to the plastic designer an extensive range of colour finishes, both gloss and matt, which will be noteworthy and outstanding.

Substantial differences, however, take place between traditional methods of colour treatment and the new techniques. In the plastic sheet, window or door, the colour will be fast dyed and permanent. Therefore plastic buildings will always retain lustre and brightness, gaining indeed from exposure instead of being despoiled, as has been the case with our present methods. Internal sheeting will be coloured to special tones, and thus spring cleaning will only impose on the occupier the operations of sponging and washing.

At this point it is advisable to explain that the full values of plastic construction are now apparent. The fact that external and inner sheeting, flooring and ceiling finishes arrive on the site in finished decorative condition eliminates all auxiliary site processes. It here occurs that economy will result to the occupiers, who will thus be relieved of the obligations of painting and decoration. From the point of view of local authorities, this latter point is important, as considerable outlays have always been necessary for the maintenance of windows and doors by paint application, and external coating or rendering on occasion in order to recapture lustre for a period.

Further Uses for Plastics.

Being conscious of the possibilities of plastics for all purposes, we find their influence extending considerably. The stodgy and cumbersome lamp-post and lighting standard of our towns will ultimately be replaced with extruded plastic standards finished in colour to match or contrast with houses. Plastic seats, flower-boxes, and, if necessary, traffic waiting shelters, will all help to create that harmonious colour scheme which is undoubtedly the aim. Research may establish the practicability of luminous plastics which will provide a new method of street definition and house numbering. In the same manner, luminous plastics will be commonly used in stair treads, door furniture, etc., making simple the movement of inhabitants during hours of darkness.

Here then in the housing field is the potentiality of this new industry, which ultimately will become as advanced in precision, manufacture and mass-production as was the motor-car industry prior to the war, and the time may come when the housing showroom will be as prominent an institution of our life as was the motor showroom.

It can readily be contended that hope of achievement of these aims is not in the distant future. On the contrary, this new industry will leap into life on the conclusion of war. The country is equipped with plastics plant of the most advanced type. The requirements of armament production, particularly in the aircraft industry, have seen to that, and even greater tasks await this plant on the conclusion of hostilities. Plants now engaged on the essential work of death-dealing components will commence to provide the homes of the future.

Plastics and Reconstruction.

Town planning goes on apace in the areas which have borne the brunt of attack. It is not enough for plans to be made creating for these areas industrial reorganisation, housing and social amenity of the very highest type. Means should and must be at the disposal of all to translate into reality *in our time* the beauties of the plans which will undoubtedly be prepared. It is not enough that we think in terms of weeks for the erection of houses. As time advances, indeed, days will be considered too long. Who, therefore, will criticise those who aspire to erect houses in hours? This can and will be done through the colossal speed with which precision-made factory units will ultimately be produced. As plant turns over to building production and impetus gains in the raw material supply, factories and their building component offshoots, the claims made here will show proof of achievement.

In describing the application of plastics to housing, it must be remembered that no consideration of the development of the future would be complete without visualisation of the social, recreative and educational buildings which will form part of the post-war reconstruction. Plans for life will demand new conceptions of type-treatment and decoration of these buildings. How excellent to conjure up people's restaurants skilfully designed by architects, veritable playgrounds of colour and brightness. For then, in conditions of perfect hygiene, not only will people eat in all-plastic buildings but ultimately in plastic-equipped and finished buildings. Here will be opportunity for the shade expert to apply his craft to the task of matching and contrasting decorative effect complete from building finish to dinner table.

One can imagine the amusement which this will create among many. Nevertheless, a few years may well establish the statement. Such conditions of brightness and hygiene will make possible the establishment of people's restaurants in which women, oft-times over-worked, will be enabled to enjoy cooked meals in leisure, where families can dine if they so desire much cheaper than at home but every bit as well.

Combine these qualities of housing and communal building service with the beauties and colour of nature, open spaces, tasteful gardens and flower boxes, and it can be stated that the age of desolation and despondency dies and the birth takes place of the new age of hope, colour and happiness.

The present and future generation look now to the architect, planner and engineer for the fulfilment of a Utopian conception of life. This can be secured when the technicians add to their skill the realisation that this is a great social obligation and service to the people as well as a problem involving vast technical issues.

BOOK REVIEW

The Law and Practice of War Damage Compensation. A Guide to the War Damage Acts, 1941, for Practitioners. By Harold B. Williams, LL.D.(Lond.), of the Middle Temple, Barrister-at-Law, and Montagu Evans, M.C., F.S.I., F.A.I., M.Inst.R.A., Member of the Rating Surveyors' Association. Cambridge: W. Heffer and Sons, Ltd. Price £1 1s.

The joint authors of this book are both so well known that its welcome by a large circle of readers is assured. One of them is a Barrister-at-Law; the other a chartered surveyor specialising, amongst other things, in rating. It is claimed for the work that it is the first to be written on the subject by the collaboration of a member of each of these two professions. They have succeeded in producing one of the most succinct and practical treatises on this most difficult question of compensation for war damage to property.

In the Introduction to the book the authors rightly state that the provisions of the War Damage Act, 1941, are exceedingly complicated. But in Chapter I they give a clear outline of the Act, which must be a useful guide to those who have to study it.

Chapter II follows the method usually adopted by lawyers, of giving full and explanatory notes on the Act itself.

Chapter III is especially useful. A number of typical problems arising out of this emergency legislation are cited, discussed and solved. Some of these problems relate to the differences in values existing in 1939 and at the present time.

The Appendices give statutory Rules and Orders with explanatory notes; the full text of the War Risks Insurance Act, 1939, as amended, with notes, and forms to be filled in; a list of regional offices of the War Damage Commission and Deputy Commissioners, with other information as obtainable up to July 31, 1941.

We wish to recommend especially Appendix D, which gives examples of valuations and calculations relative to Part I of the Act and the Fourth Schedule. This in itself makes the book a great acquisition.

The examples of typical instances in which a value payment should be made, contrasted with those where the compensation should be a cost of works payment, are very lucid and helpful.

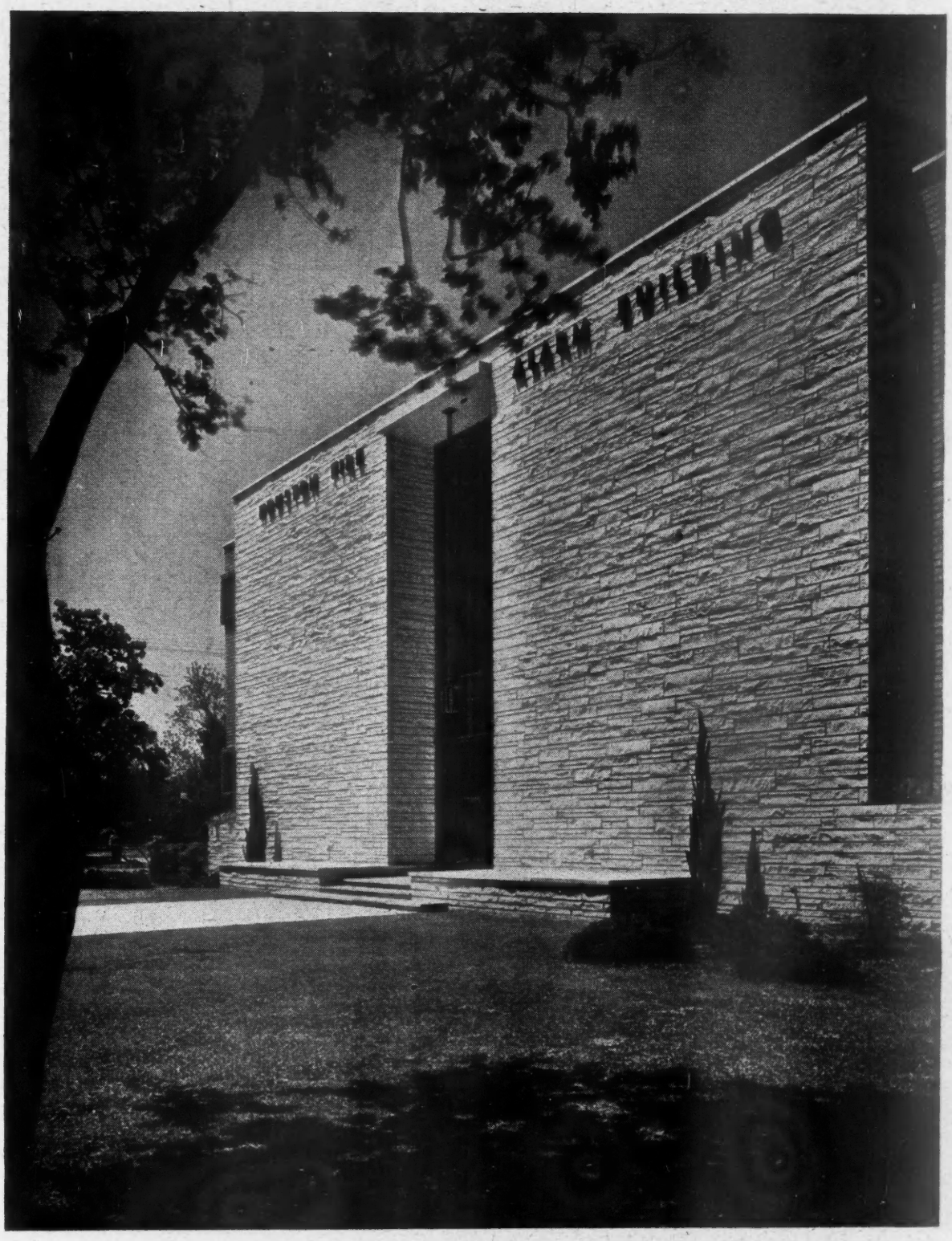
We are happy to make it known that all profits from the sale of this book are to go intact to the R.A.F. Pilot and Crews Fund. This is due to the collective generosity of the publishers and printers and the forfeiture of royalties by the authors themselves.

BOOK RECEIVED

The Science and Practice of Welding. By A. C. Davies. (London: Cambridge University Press.) Price 10s. 6d. net.

Housing in 1940-41.

Loans sanctioned by the Ministry of Health during the quarter ended June 30, 1941, to local authorities in England and Wales include a sum of £505,902 for housing.



THE ENTRANCE FRONT.

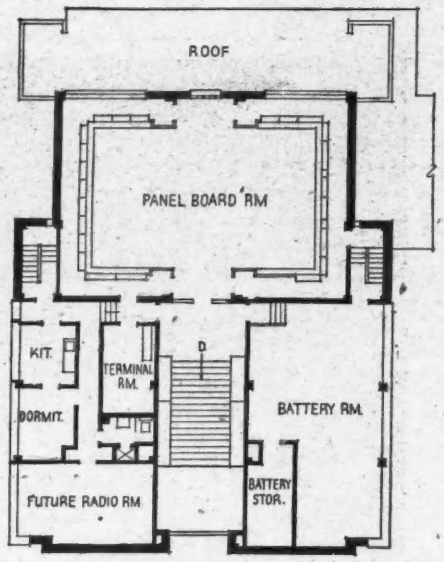
FIRE ALARM BUILDING, HOUSTON, TEXAS, U.S.A.

MESSRS. MacKIE & KAMRATH, ARCHITECTS.

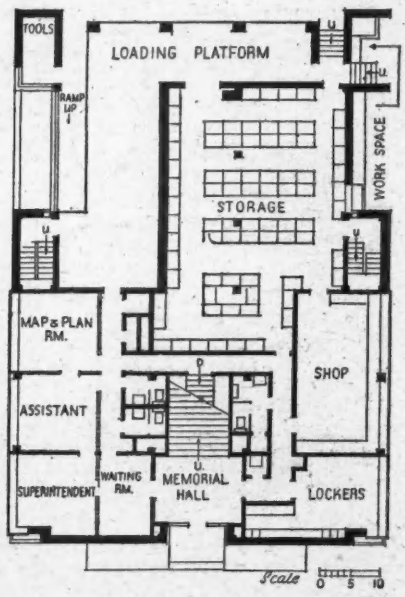
FIRE ALARM BUILDING, HOUSTON, TEXAS, U.S.A.

THIS UNUSUAL BUILDING HOUSES THE ENTIRE FIRE ALARM Control of the city of Houston, Texas, U.S.A., and provides space for the control of additional alarm systems to take care of a future population of 1,000,000. Since the functions of the building are vital to the community, it was made completely fireproof, with a panel board level above any possible water limit of periodic floods. In this room terminate the wires from every box in the city.

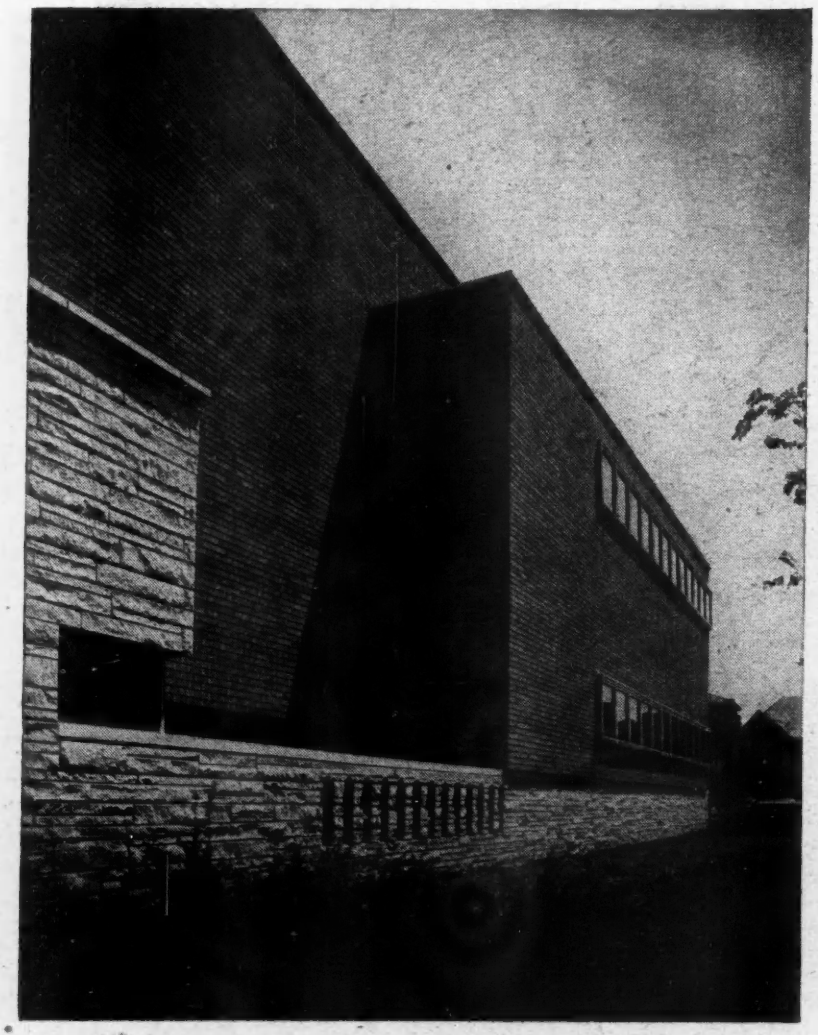
The architects (Messrs, MacKie and Kamrath, AA.I.A., of Houston, Texas) felt that the exterior should have a monumental character, partly because of its importance and partly because it forms part of the new Civic Centre. To this end split-face Texas limestone, brick and concrete were combined. Inasmuch as no particular precedent has been set, the architects felt free to design the structure to fit best its function. The Memorial Hall is panelled in Philippine mahogany and dedicated to firemen killed in performance of their duty. Offices and drafting rooms for the city's electrical department are located on the ground floor, along with locker, work and storage space. The first floor contains eating and sleeping quarters for engineers and maintenance men, and the radio control room. The north side of this floor contains the battery room, which supplies current for signal operation independently of public service. Air conditioning and heating equipment is located in the basement. Plans are reproduced by courtesy of the "Architectural Forum," New York.



FIRST-FLOOR PLAN.

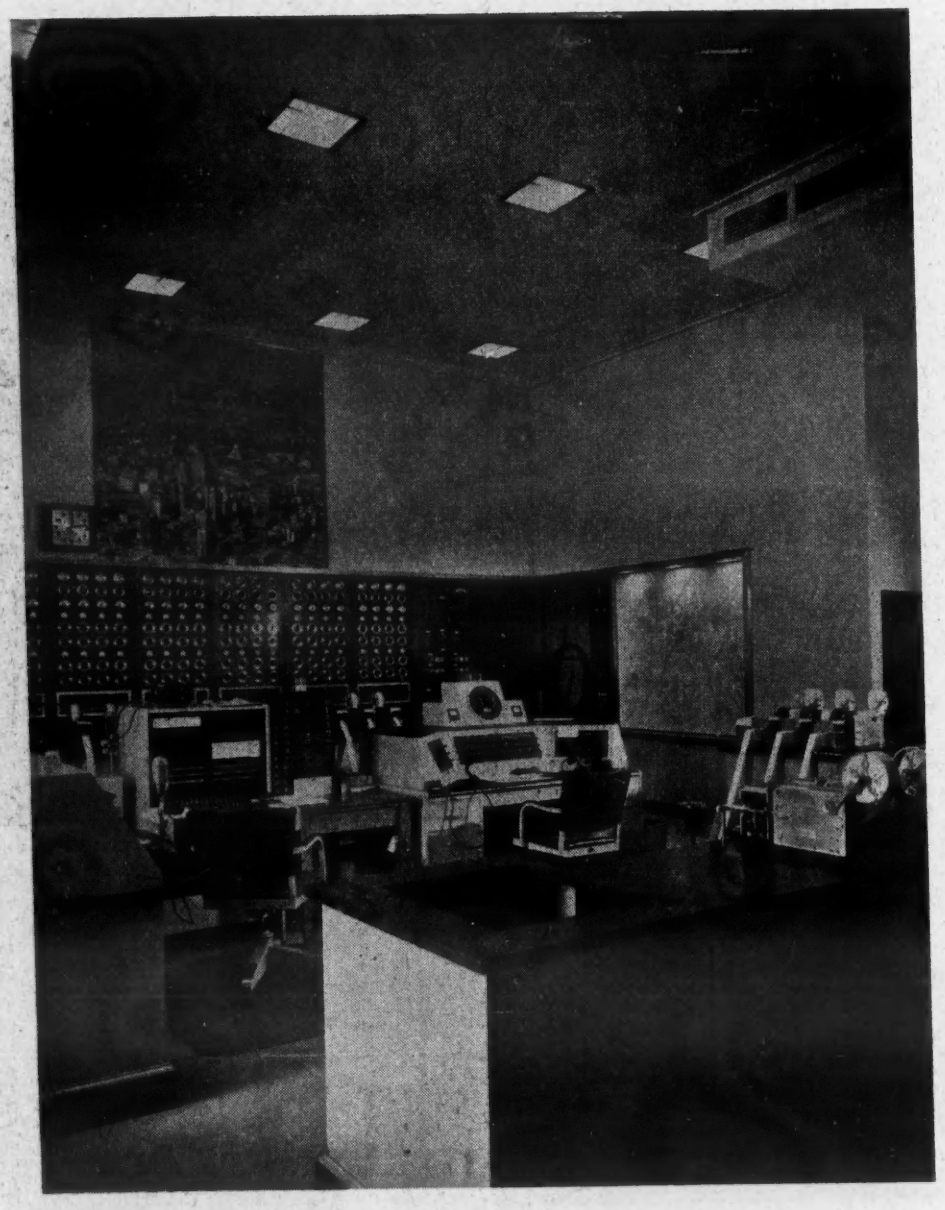


GROUND-FLOOR PLAN.



VIEW OF FLANK WALL

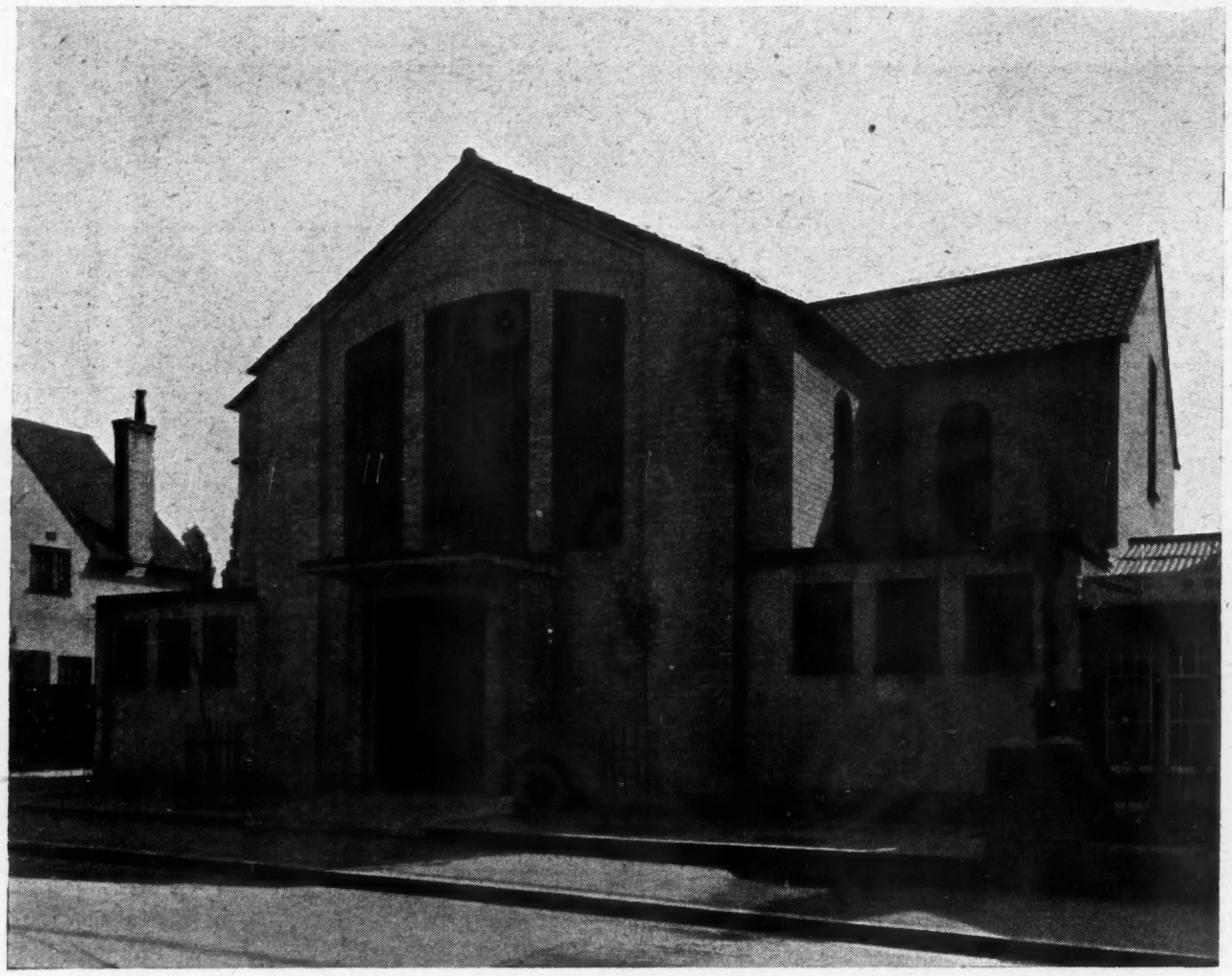
MESSRS. MACKIE & KAMRATH, ARCHITECTS.



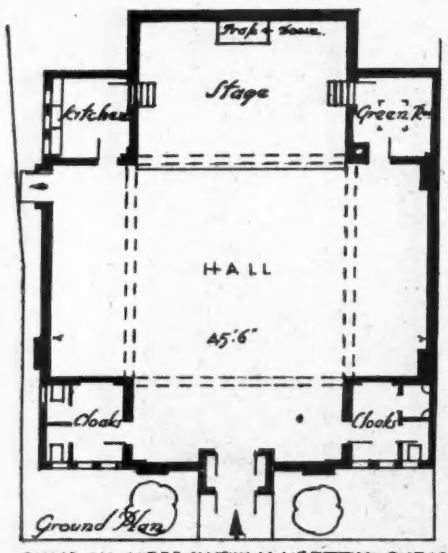
VIEW OF THE PANEL BOARD ROOM.

VIEW FROM MEMORIAL HALL, TOWARDS PANEL BOARD ROOM.

FIRE ALARM BUILDING, HOUSTON, TEXAS, U.S.A. MESSRS. MacKIE & KAMRATH, ARCHITECTS.



THE ENTRANCE FRONT.



CHURCH HALL, NEW MARSTON, OXFORD.
GROUND PLAN.

ST. MICHAEL'S HALL, NEW MARSTON, OXFORD.

MR. T. LAWRENCE DALE, F.R.I.B.A., ARCHITECT.

THE HALL OCCUPIES A CORNER SITE WITH LAND AT THE REAR on which extensions are intended. The work was begun shortly after the outbreak of war and was finished in time to avoid the restrictions on building. The hall provides a fully equipped stage with kitchen and green room on either side, stores, heating and additional green room space under the stage, toilet rooms and seating capacity of 220. Materials used were sand-lime bricks, oak window sashes, "Seraya" flooring and Roman tiles. The builders were D. Fisher & Son, Oxford, and sub-contractors were: Heating, F. Church, Oxford; electric lighting, C. F. Edwards, Oxford; and "Seraya" flooring, Hollis Bros., Hull.

THE STAGE.

WAR-TIME BUILDING PRACTICE

By R. Cotterell Butler, A.R.I.B.A.

67—WAR-TIME AND POST-WAR REHOUSING: CONSTRUCTION—8.

MECHANISED BUILDING CONSTRUCTION (*continued.*)

MECHANISED *IN SITU* CONSTRUCTION.

In the two preceding articles we have chiefly been concerned with the problem of evolving suitable forms of erection plant to meet the specialised requirements of building construction based upon the use of prefabricated elements. But, in devoting attention to this important section of development, it must not be forgotten that mechanisation is also applicable to construction by *in situ* techniques. Therefore, before going on to the general question of mechanisation and building layout, some of the more important fields for the development of mechanisation in connection with *in situ* building will be examined.

Two types of development in connection with *in situ* construction would seem to be possible: (*a*) the use of mechanical equipment for preparing and distributing semi-liquid mixes to form *in situ* structures; and (*b*) the mechanical assembly of small preformed building elements *in situ*.

SEMI-LIQUID MIXES.

At the present time it is probable that more progress in the development of the use of mechanical and near-mechanical equipment for *in situ* concrete construction has taken place than in any other field of building. As far as the formation of the structural shell is concerned, three essential processes are involved:

1. THE PREPARATION OF THE MIX. — Extremely efficient and often quite complex fully mechanised equipment for the preparation of concrete aggregates is now almost commonplace in the building and civil engineering industries. The functions, capacity, and management of plant are so well known that further reference is unnecessary except to say that it represents an excellent example of a mechanised building process.

2. DISTRIBUTION OF THE MIX. — While in small-scale operations it is still more or less practicable to move mixing equipment from point to point, or, alternatively, to distribute the ready-mixed aggregate manually, mechanised distribution has already been evolved on a practical basis enabling the mixing equipment to remain stationary over a considerable period, greatly simplifying supplying it with raw material.

The most highly developed distribution arrangement at present evolved is, of course, by pressure through flexible pipeline. The practicability and efficiency of this system has already been conclusively demonstrated, and there can be no doubt about its advantages over truck distribution, even where the latter is mechanically operated.

3. FORMATION OF THE STRUCTURE. — Generally, there would seem to be greater scope for the development of high-efficiency mechanisation in connection with the actual formation of a structure from semi-liquid aggregate than in either of the above cases where development has already progressed conclusively. However, where standardisation is practicable it has already been possible to evolve improved forms of special shuttering and centering which, besides being suitable for use over and over again, can be related to vertical framing in such a way as to enable the formwork to be raised as work proceeds by means of a ratchet device.

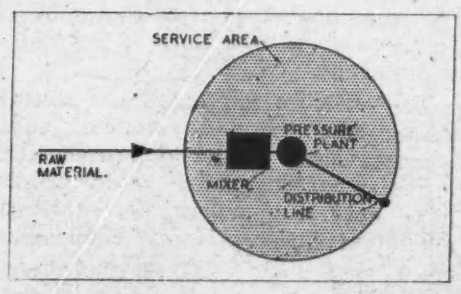


DIAGRAM 1.—Diagram emphasising fundamental basis of pressure-fed-aggregate *in situ* construction.

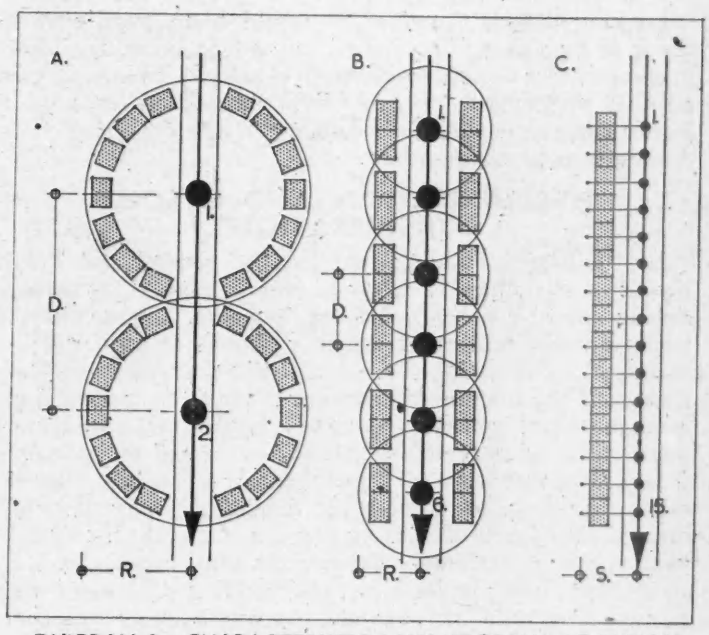


DIAGRAM 2.—CHARACTERISTIC LAYOUT FORMS OF TYPICAL MECHANICAL ERECTION SCHEMES.

A. *Pressure-fed Aggregate.*—Here distance "D" is not at all critical and distance "R" is determined only by practicable length of pipeline.

B. *Long-arm Cantilever Gantry.*—Here distance "R" is most critical since it is determined by reach of arm available.

C. *Beam Gantry.*—"S" is critical but may extend only just over building width if surface is suitable for plant. (In illustration beam is operating from near "C/L" of roadway. This is not essential.)

Along these lines development must proceed, and few insuperable difficulties are likely to occur as long as really intelligent standardisation is undertaken. With regard to the question of vibration or tamping, while this has perhaps a somewhat greater relevance in connection with prefabrication (off site) the use of vibration *in situ* may be expected to proceed side by side with other developments for improving speed and efficiency.

PREFORMED ELEMENTS.

While it is possible to visualise the development of an ingenious machine capable of assembling small *preformed* building elements such as bricks (*as distinct from large prefabricated elements*) it is extremely improbable that a machine will ever be evolved which will offer sufficient gain over manual assembly to make its development worth while in comparison with the mechanical assembly of prefabricated or site-prefabricated elements. However, the term *mechanisation* is unavoidably a rather inexact or perhaps too comprehensive one, for the employment of any tool, even a simple drill, is in some measure a development towards mechanisation. Therefore, under this heading must be included the use of jigs, forms, or grids which, in themselves extremely simple, are potentially capable of eliminating certain manual operations.

At present, the use of shuttering is almost exclusively connected with poured aggregates, but it seems reasonable to assume that in the field of construction with small preformed elements, considerable advantages might be derived from the use of jigs analogous to shuttering, enabling walls, piers, etc., to be erected with less levelling and lining-up.

To suggest a typical example: The laying of a simple 4½-in. brickwork wall involves maintaining consistent joint thickness horizontally and vertically, level coursing, and vertical faces. Now by the evolution of a simple locating panel, fixed in such a way as to locate the correct position for each brick or group of bricks, and to maintain even coursing, vertical faces, etc., either a less skilled operative could be employed to lay reasonable brickwork or, better

still, a skilled worker could very materially increase his speed.

Here, again, it must be noted that the use of jigs for *in situ* construction is hardly likely to raise the efficiency of the *in situ* assembly of small preformed elements to such a degree that it competes seriously with prefabrication. The reasons for this lie chiefly in the advantages of large element construction in the factory or site-works as compared with on the site itself.

Looking ahead, therefore, it would seem intelligent to think of jig and grid equipment as well as more developed machinery for assembling small elements, as a valuable adjunct to prefabrication or site-prefabrication techniques, rather than as a means of enabling *in situ* construction to maintain its past supremacy.

MECHANISATION AND LAYOUT CONSIDERATIONS.

In traditional building practice the general and detail layout of structures is rarely if ever influenced by factors arising out of constructional requirements. Now, while it is most undesirable that amenity should in any way be sacrificed for the sake of constructional convenience, nevertheless, if the maximum advantages are to be gained from mechanisation, general and detail layout must take into account the basic fundamentals of mechanised procedure.

In accordance with the type of construction being undertaken, erecting or assembling machinery may be subdivided into types of varying degrees of mobility. That is to say, where extremely lightweight semi-permanent construction is being undertaken, the building equipment may be supposed to be fairly mobile, but where heavy structures are being erected it is highly probable that the erecting machinery will be considerably less easily moved.

Again, the size and in all probability the mobility of the equipment will be influenced by the spans over which it must distribute elements, and this factor must also be taken into account.

Based upon these two considerations and their implications, it is possible to summarise the major points of relationship between mechanisation requirements and structural and layout factors :

1. Heavy construction means *less mobile* plant, and it is therefore all the more important carefully to relate layout to the characteristics of the erection equipment.

2. Lightweight construction means more mobile plant and demands less co-ordination between layout and the requirements of erection equipment.

3. With *in situ* semi-fluid aggregate construction it is essential to maintain as static a production plant as possible, but this is offset by the fact that even with a stationary mixer, considerable flexibility of operation is obtainable owing to the fact that a long distribution line (much longer than any hoist arm) is practicable.

4. Large structural widths either mean large-arm plant (consequently heavy) or entail double operations (from either side). Therefore, on the whole, buildings of limited width may be expected to be those most economically erected.

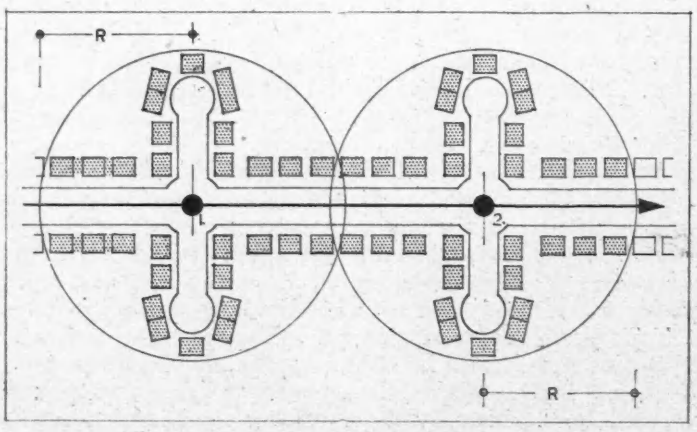


DIAGRAM 3.—Layout scheme for housing development from potentialities of pressure-fed-aggregate mechanisation.

Note.—It is not suggested that this is necessarily an ideal or even a sound planning arrangement, and is only illustrated to indicate a typical mechanised building arrangement.

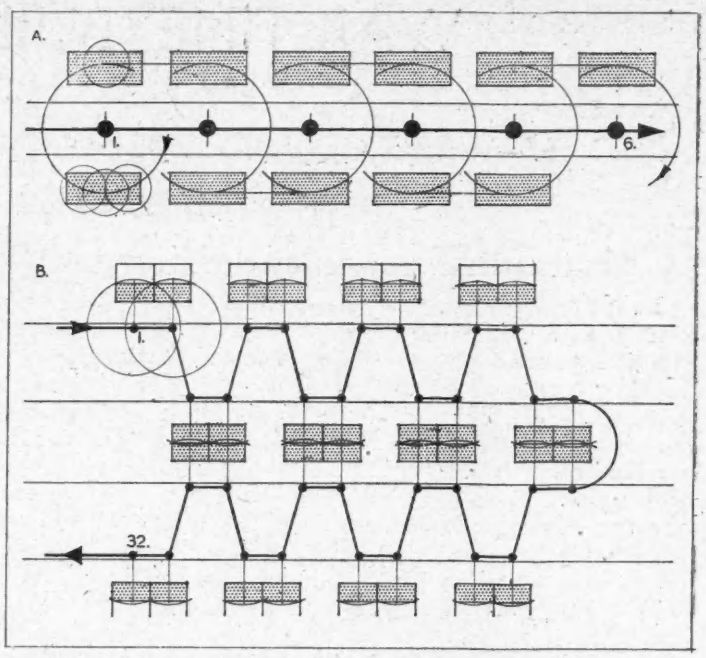


DIAGRAM 4.—CONTRASTING OPERATION SEQUENCES FOR MECHANISED HOUSING.

A. Long-arm mechanical equipment fitted with articulated arm showing simplicity of route of erector.

B. Short-arm equipment showing erection sequence of four stages per structure.

Four classes of erection equipment represent the primary characteristics affecting layout considerations :

1. SIMPLE HOIST EQUIPMENT. — This is usually highly mobile and of a low standard of precision, and only really applicable to lightweight construction. Equipment of this sort may normally be employed entirely independent of layout requirements, since its normal function is usually little more than that of supplementing manual operations. There is usually no need to relate the operating position of the hoist in any precise way to that of the structure being erected, and adjustments in position may usually be made while actually handling the structural unit, since the locating of the element is often effected primarily by manœuvring the whole plant.

2. CANTILEVER GANTRY. — Where used for lightweight construction a cantilever gantry may combine a reasonable measure of mobility with considerable handling capacity. But where used for handling heavy building elements it is essential that its path of operation be carefully predetermined.

3. BEAM GANTRY. — This will normally be employed only for specialised work particularly suitable to its natural characteristics. Since this type of plant is intended to span the structure being erected, high unidirectional mobility is usual. Beam gantry equipment is therefore directly suitable for the erection of continuous building of limited width or of buildings arranged in lines.

4. PRESSURE DISTRIBUTION OF AGGREGATE. — Unlike the two previous examples, the span-capacity and range between moves of this sort of equipment is not so directly controlled by mechanical factors. The range of such equipment depends largely upon the power available, and distribution lines of as much as 300 to 500 ft. are practicable. By comparison with what would be a large cantilever arm—say 40 ft.—the system is very flexible. But as already noted this potential flexibility is somewhat offset by the need for moving the mixing unit as little as possible. However, the design of a mobile mixing and pressure supply plant, fed by highly mobile supply trucks, would seem both practicable and capable of economically solving almost every layout requirement.

The sketches illustrated are intended to suggest basic relationships between erection equipment and layout arrangements. It should be remembered that while most forms of equipment are considerably adaptable, they each have natural characteristics which must be realised if maximum efficiency is to be achieved.

(To be continued.)

ORGANISATION OF TECHNICIANS IN THE BUILDING INDUSTRY

STATEMENT BY THE A.A.S.T.A.

THE following statement is issued by the A.A.S.T.A. :—

The Ministry of Works and Buildings has called for a maximum effort in all sections of the industry. The speedier building of munition factories, aerodromes and other plant is vital to the defeat of Fascism. Technicians must answer the call, for their work is of key importance.

It is acknowledged that among the makers of tanks and planes the presence of active trade unions not only gives the workers the confidence of unity from which to get their working conditions made as good as possible, but actually stimulates production. The management of a London engineering factory recently admitted that the growth and recognition of trades unionism among their workers, while it had cost them a new canteen, new washing facilities, and adjustment of pay-rates, had definitely resulted in increased output.

The A.A.S.T.A. is fully convinced that trade unionism has a function to fulfil among building technicians as important as among engineering workers. The struggle of technicians against the undeniable inefficiency that has so far marked the carrying out of the war-time building programme has been, on the whole, feeble. The A.A.S.T.A. believes that the lack of trade union organisation is the main reason for this.

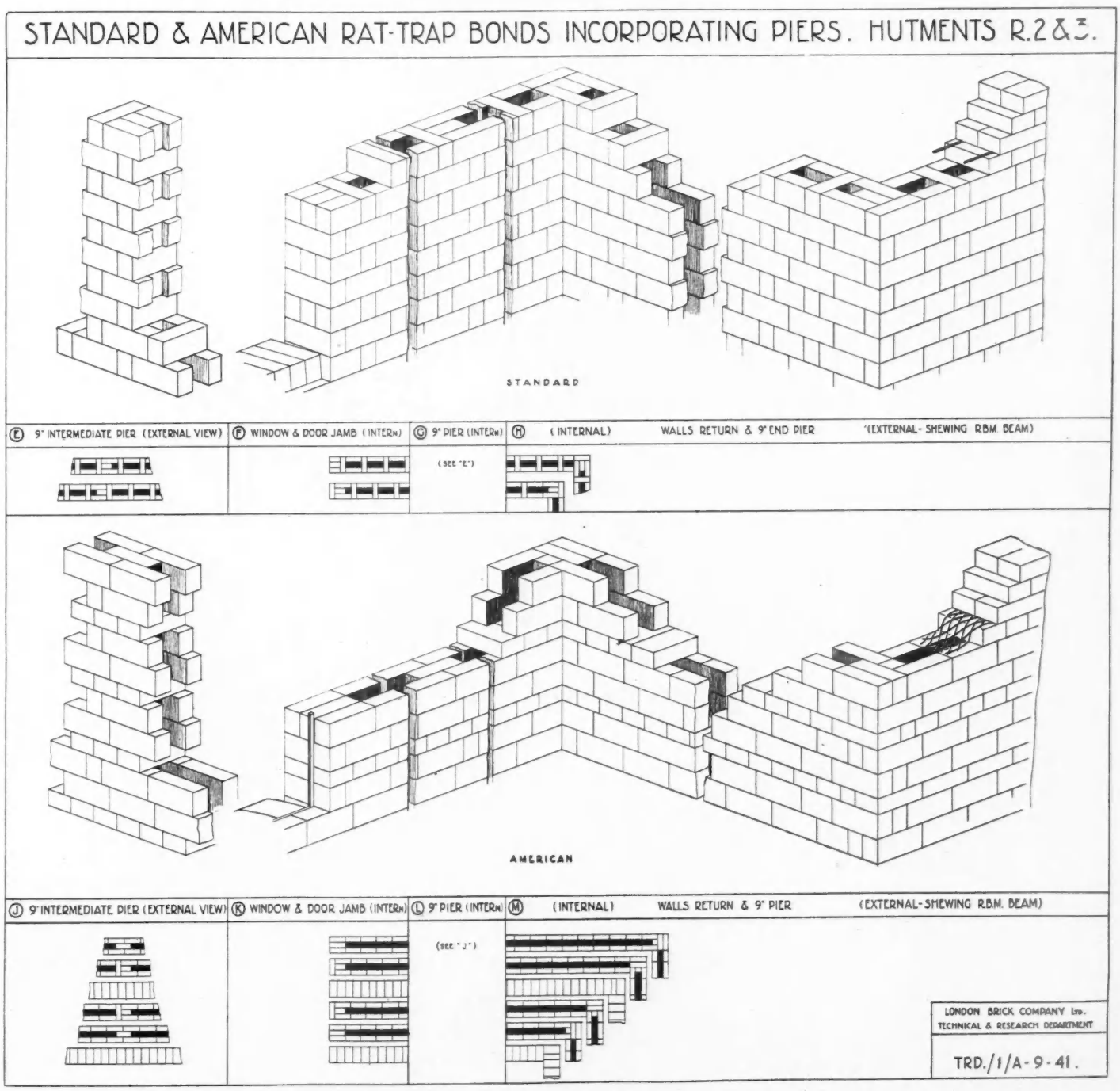
The creation of machinery for all who take part in a building job—especially in the process of planning it—to put forward constructive proposals, in the knowledge that authorities higher up will carefully consider them, would build up a responsible attitude among technicians towards their job which could produce spectacular improvements in output. This is now the A.A.S.T.A.'s chief aim, to which its forthcoming report ("War-time Building") and Conference are to be devoted.

The organisation of the industry now consists mainly of units where every type of building technician is found working in co-operation. The A.A.S.T.A. believes that by building up one union for all these categories of technicians it is doing service of great value for the present and the future.

Misunderstandings as to the scope of the A.A.S.T.A.'s membership have arisen from its name, which admittedly no longer corresponds with the activities and aims of its organisation. Alteration of the name is actually under discussion. Meanwhile the following list of categories of membership is issued as a guide to the large number of technicians who do not yet enjoy the advantages of trade union organisation :—

ARCHITECTS.
ARCHITECTURAL ASSISTANTS.
CLERKS OF WORKS.
DESIGNERS of building equipment, materials, etc.
ENGINEERS, civil, electrical, mechanical, municipal and county, sanitary, heating, ventilating, structural.
ENGINEERING ASSISTANTS, in all sections.
SURVEYORS, building, estimating land, quantity, valuation, supervising.
SURVEYING ASSISTANTS, in all sections.
TECHNICAL REPRESENTATIVES, employed in the offices of building contractors and commercial firms connected with the building industry, including :
TOWN PLANNERS.
DRAUGHTSMEN, of all categories enumerated above.

Principals on their own account, who subscribe to the aims of the A.A.S.T.A., may be admitted as non-voting subscribers.


STANDARD & AMERICAN RAT-TRAP BONDS INCORPORATING PIERS. HUTMENTS R.2 & 3.
STANDARD
(E) 9" INTERMEDIATE PIER (EXTERNAL VIEW)
(F) WINDOW & DOOR JAMB (INTERN)
(G) 9" PIER (INTERN)
(SEE "E")
(H) (INTERNAL) WALLS RETURN & 9" END PIER
(EXTERNAL-SHEWING R.B.M. BEAM)
AMERICAN
(J) 9" INTERMEDIATE PIER (EXTERNAL VIEW)
(K) WINDOW & DOOR JAMB (INTERN)
(L) 9" PIER (INTERN)
(SEE "J")
(M) (INTERNAL) WALLS RETURN & 9" PIER
(EXTERNAL-SHEWING R.B.M. BEAM)
LONDON BRICK COMPANY Ltd.
TECHNICAL & RESEARCH DEPARTMENT
TRD./1/A-9-41.

TYPE HUTMENTS : Prepared for a Government Department by the Research Department of the London Brick Co., Ltd., this drawing shows Standard and American rat-trap bonds incorporating piers for hutments.

BY WEIGHT OR BY VOLUME?

SOME ASPECTS OF THE CHECKING OF MATERIALS

By " RESIDENT SURVEYOR."

The author of this article, who reveals the possibility of widespread fraud in the supply of materials to Government building sites, asks us to state that he is not benefiting in any way personally from publication.—ED.

THE present widespread building activities of the Government, the construction all over the country of aerodromes and runways, munitions factories, emergency hospitals and agricultural hostels, has led to the spending of large sums of public money in often remote and ordinarily sparsely populated districts. Quarries, sandpits and brickyards which in peace time barely manage to extract a precarious living from limited local demands have found themselves inundated with orders, while the consequent difficulties in finding adequate transport for their products has led to the hiring or purchase of lorries of every conceivable description and the conversion into lorries of large and elderly private cars.

Whether the chaotic conditions I have in mind are applicable all over the country I cannot say from first-hand experience, but I can assert from personal observation in a district at a considerable distance from London that to find a lorry bearing particulars of the tare weight or capacity is unusual. In this particular county a great deal of Government work of the utmost urgency is going forward; hundreds of fresh lorries have been imported into the county apart from R.A.F. and Army lorries, and the use of untared and uncalibrated vehicles and irregularities connected with delivery-notes appear to be rife. The Inspector of Weights and Measures for the county, whose job it is to keep a check on such matters, has lost most of his staff to the Forces and finds it extremely difficult to cope with the situation. In the few cases in which he manages to secure a conviction the infliction of a usually negligible fine is hopelessly inadequate in dealing with the state of affairs.

A large number of the contracts now being carried out in this locality for the various Government Departments are based on the " target " principle, or on a " cost-plus-profit " basis of one kind or another. Outside surveyors are often appointed on the larger contracts, while the smaller ones are usually entrusted to officials employed direct by the Departments concerned, and it is the duty of these officials to ensure, either by a complete check of the materials delivered or by " spot-checks," that the Government is getting what it is paying for. These officials, however, do not always consider it their business to find out whether the lorries used by the various suppliers are properly tared or calibrated and registered with the County Council.

An Inspector of Weights and Measures is empowered to request a driver to take his vehicle a distance of *not more than* two miles to the nearest weighbridge for the purpose of checking the weight of the vehicle or load. But he has no authority to enter the sites of Government works in progress, and the inspector for my particular district tells me he has on more than one occasion followed a lorry on suspicion of some irregularity, to the entrance of a site, only to be refused admittance. These are circumstances of which contractors' merchants and hauliers are hardly likely to be unaware.

These contracts are generally of an urgent nature; a defaulter, when prosecuted, will probably plead this urgency in extenuation, and I know of one case at least where such a plea has succeeded. The transport problem is so acute that great difficulty is experienced in deciding which is a case of genuine hardship and which an attempt to ignore the requirements of the Weights and Measures Acts.

Contractors, at any rate on the smaller works, in their desire to keep down the prime cost in their own interests rather than risk losing any " bonus " to which they may be entitled, are often content to risk the correctness of the materials delivered rather than go to the expense of employing a reliable checker.

Again, I have found it extremely difficult in this district to find men to whom the proper checking of materials can be entrusted, as apart from the matter of integrity a man who is sufficiently familiar with building matters to carry out a proper check in all trades can, in the present shortage of labour, obtain more lucrative employment. The natural outcome of these conditions is that the lorry-owner or hirer who feels inclined to indulge in sharp practice finds his way practically unimpeded.

My experiences as surveyor on certain Government works in this locality point strongly to the conclusion that unless a vigilant eye is kept on deliveries of materials, particularly those sold by weight or measure, a considerable wastage of public funds will occur. A strict watch should be kept to ensure that the vehicles delivering are properly tared or calibrated; a deficiency in a lorry-tare of two hundredweight, if repeated hundreds of times, leads to a serious loss to the consignee.

Conveyance notes need to be subjected to a close scrutiny. The standard form of conveyance note used nowadays requires that certain information be given by the merchant supplying; in every case the registered number of the lorry, date and time of loading at the quarry or sandpit must appear, together with the gross weight of the vehicle and load, tare of vehicle and net weight of load, or, in the case of delivery by volume, the cubic yardage of the load. Finally, the signature of the merchant's representative must be added in support of these particulars. On the face of it, the time of loading would appear to be an immaterial detail, but unless this is done, reflect how easy it will be for the driver to get two or more notes signed at the site for the same load, a practice which I have some reason to suspect is by no means infrequent. And if such an indiscretion be suspected and an inquiry set on foot, the surveyor will find it very difficult to prove that the imaginary extra load was not in fact received.

The fact that precise weights, tares and supporting signature all appear on a conveyance note should not be accepted as conclusive evidence that all are correct; the weighbridge may be a private one, or, unlikely as it may seem, the particulars may have been arrived at entirely by guesswork, as happened in one case, adequately dealt with, within my own experience. In the case referred to, a public weighbridge having proved the weights of stone and tare shown on a conveyance note to be very "materially incorrect statements," a visit was paid to the source of supply, where it was found that no weighbridge was installed, and although the time of loading had been stated, there was neither watch nor clock at the quarry. The clerk protested that he had worked out the weight of each grade of stone, and felt quite confident in inserting the weight to the nearest hundredweight merely from a cursory inspection of the load. The lorry in this instance bore no particulars of the tare or capacity.

There are numerous minor offences connected with the delivery of materials for which the surveyor ought to be on the alert. I have known a driver, when asked for a conveyance note, to produce a sheet of blank forms and write one out on the spot; the weakness of this procedure is obvious, for unless that particular load happens to be checked the driver can always imagine an extra yard or two, with considerable benefit to himself if he is allowed to repeat the offence many times. The law also looks with disfavour upon a vehicle whose bodywork is faulty in such a way as to lead to the loss of a part of the load *en route*; and the haulier who carries, say, six yards of sand on a lorry which has been stamped and registered with the County Council as of only five yards capacity, stands in need of correction. The reply of the merchant or haulier when charged with one or all of these offences will often be a plea of "urgency," but it will be found that this same urgency invariably operates in his favour.

In the case of sand charged for by volume, I have noticed that it is sometimes the practice for the spare wheel of a lorry to be fixed behind the driver's cab inside the body, thus occupying some of the space which would properly be taken up by the load. One often finds that the sand or ballast has been loaded in such a way that, while the heap in the centre gives the impression of a bumper load, the material falls away towards the sides, so that, were it to be levelled off, it would by no means reach the top of the body. In one case of an old lorry registered as of four cubic yards capacity, I found on inspection that, probably owing to the inability of the engine to pull the full load, the top board had been removed from the body all round, and " 3½ yards " and a streak had been crudely painted on at a point near the top. The lorry had not, of course, been re-registered as of 3½ yards capacity.

Turning to cement, with modern methods of filling, the quantity in each sack is likely to be found adequate, so that it is usually only necessary to see that the correct number of sacks is present. In a ruse which I am reliably informed has actually been practised, the driver keeps a few sacks in odd places on his lorry, under the seat or behind the spare wheel. These sacks are kept semi-permanently in this position, and while they add their quota to the result on the weigh-ticket, they are not unloaded at the site unless the load happens to be checked, and thereafter take their places as part of the next load, and so on, until expediency requires their removal.

When, as sometimes happens, adequate supplies of bricks are unobtainable locally, the contractor may be compelled to go far afield for them, and to employ an independent haulier to unload them at the nearest railway station and convey them to the site by road, paying the haulier so much per journey. In one such case within my experience I was able to trace the arrival of all the bricks

charged for by an inspection of the railway company's books, but no check was kept by the contractors upon the number of bricks arriving at the site, and no conveyance note was produced by the hauliers with each load delivered, so that it would have been quite possible for the haulier, had he wished to do so, to tip an occasional load in his own yard without undue risk of discovery. In this case the haulier was unable to justify the necessity for four of his journeys owing to the total inadequacy of his own records.

Finally, a word with regard to petrol, that "vital munition of war." In contracts of the "cost-plus" and "target" varieties it is essential that consumption be fully checked by the surveyor and every gallon accounted for. Unless a full record is kept by the contractor, the surveyor will find that stocks of petrol will dwindle unaccountably, resulting in serious deficiencies, while his inquiries into the cause will probably lead him nowhere. The keys of the petrol store should be in the hands of a completely trustworthy person, and every intending user asked to sign the record, stating the purpose for which he requires the fuel.

CONTROL OF BUILDING MATERIALS

OFFICIAL PROCEDURE FOR MERCHANTS.

THE Director of Roofing, Ministry of Works, announces that the following procedure now applies where merchants desire to obtain supplies of materials which are controlled by this Department :—

Roofing Slates.—These are releasable by the quarries only for (*a*) repairs necessitated by enemy action, (*b*) essential maintenance work (including repairs due to storm damage), and (*c*) buildings of vital national importance :—

Under (*a*), upon receipt by the Quarries Regional Committee, with order, of a certificate signed by the Assistant Director of Emergency Works or Emergency Works Officer for the Region in which the damage has occurred, or, under (*b*), a similar certificate, provided the requirements are not large. Where maintenance repairs necessitate large quantities of slates, then those can only be dealt with under (*c*).

For slates required under (*c*) a certificate or some other authority must be furnished by the Government Department able to "sponsor" the building in question, and sent to the Quarries' Regional Committee, with order.

For repairs under (*a*), in addition to the A.Ds.E.W. and E.W.Os., the Ministry of Aircraft Production, through the Area Officers and Chairmen of the Local Reconstruction Panels of its Emergency Services Organisation, has power to issue certificates in respect of industrial buildings in which the Ministry of Aircraft Production is interested, such certificates being issued by the Area Officer or Chairman of the Reconstruction Panel for the area in which the damage takes place.

Whilst these regulations still apply in general, the absence of enemy activity on a large scale during the past few months *has permitted the temporary release from control, as from October* 1, 1941, *and until further notice, of roofing slates of sizes* 14 *in. and downwards, but the scarcity amongst the larger sizes still makes control over these essential;* 4½*-in. damp-course slates are not subject to control.*

The certificates mentioned above must not be forwarded by merchants to individual quarries, but to the Secretary for that group of quarries from which the slates are desired, as under. As the resources of the quarry groups are pooled, merchants are expected to take the output of any quarry irrespective of that from which the slates may be ordered :

W. C. Oliver, Welsh Slate Quarries Regional Committee, Port Penrhyn, Bangor, North Wales.

G. T. Setchell, Cornish Slate Quarries Regional Committee, Delabole, Cornwall.

L. R. Robinson, Westmoreland Regional Slate Committee, Martins Bank Chambers, Keswick, Cumberland.

The output of the Scottish Slate Quarries is not controlled.

Plasterboard.—The very great demand for plasterboard for Government requirements and for repairs necessitated by enemy action makes this in extremely short supply. Where possible, consumers are urged to use substitutes. *In no case may plaster board be released for such work as blacking-out windows, etc.*, or, indeed, for any purpose other than that for which it is absolutely essential.

Merchants submitting orders for Government contracts should send, with their orders, full particulars of the contract in question. For air raid damage repairs, a certificate by a competent local authority, such as the Borough Surveyor, should be obtained by the merchants from their customer and sent by them to their usual supplier with their order.

The manufacturers meet at frequent intervals and allocate these orders amongst themselves according to the geographical position of the works and the maker in the best position to supply at the earliest date, and therefore consumers are expected to take any of the existing makes of plasterboard and not necessarily that which may be specified. It is pointed out that the shortage of plasterboard makes it very difficult for the manufacturers to fill orders even for air raid damage repair without some delay.

NOTE.—Neither roofing slates (apart from the small sizes mentioned above) nor plasterboard can be released for purposes of stock, even to replace stock which has been utilised for air raid damage repairs.

Wallboard.—This is controlled by the Paper Controller (in consultation with the Ministry of Works and Buildings), Great Western Hotel, Reading. The system in force operates through licences whereby, in the case of the home-made produce, merchants on the books of the manufacturers are empowered to hold stocks releasable only against Government requirements or repairs necessitated by enemy action and subject to available supply and furnishing requisite certificates of the use to which the wallboard has been put. Such stocks are replenished periodically.

Many merchants holding these stocks fail to render periodical returns to the Paper Controller. Will they please remember that prompt returns are an urgent necessity?

As regards imported wallboard, the importers themselves disperse this in their own warehouses. Imported board is not generally dispersed amongst merchants, and hard board is released only in exceptional cases.

Wood Wool Slab.—This produce, which is found to be very useful for partition work or for roofing, is now being taken under the control of the Director of Roofing with a view to ensuring that supplies are utilised only for essential purposes. Details of the method of the control have yet to be decided, but it will probably be on similar lines to plasterboard.

Asbestos Cement.—Any merchants requiring supplies of this material should forward his order to his manufacturer, supporting it with a certificate from a competent authority, stating the purpose for which it is required.

(*a*) AIR RAID DAMAGE REPAIR.—For this purpose a certificate should be obtained from an Assistant Director of Emergency Works or an Emergency Works Officer of this Department, from the Local Reconstruction Panel in the case of repairs to factory buildings in which the Ministry of Aircraft Production is interested, or from the Emergency Works Officer or Local Borough Surveyor in the case of repairs to houses. The position with regard to supply does not permit merchants to carry stocks, but a scheme has now been put into operation by which a limited number of merchants in "target" areas are being issued with a small amount of stock to be readily available in the event of an air raid.

(*b*) BUILDINGS OF VITAL NATIONAL IMPORTANCE.—In the event of work being carried out by Government Departments, the contract number will be sufficient support for the order when it is being forwarded to the manufacturers. In the case of other buildings of vital national importance which are engaged upon Government contracts, details of contract numbers and any priority should be furnished.

(*c*) AGRICULTURAL PURPOSES.—The order to the manufacturers should be supported by a certificate from the County Agricultural Adviser or the Local War Agricultural Committee stating the purpose for which the material is required.

In the past, when asbestos cement had to be fixed, the metal accessories used could be procured only by the merchant securing, from the Department interested in the premises, a Form M, which would be passed to the asbestos cement manufacturers. *Arrangements have now been made whereby those merchants who normally secured their accessories through the asbestos cement manufacturers may, from October* 1, 1941, *do so without production of the Form M.*

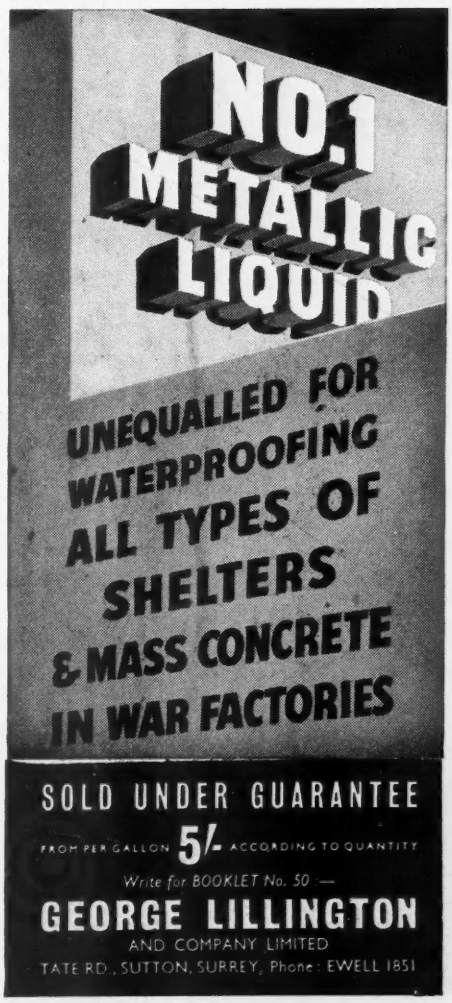
Roofing Felt.—Until now this material has only been released under a permit system, but arrangements have been made to discontinue this, and roofing felt may now be purchased by the consumer without formality. Records of stocks still have to be kept by the merchant. Control may have to be reinstated at any time at short notice.

Glass Substitutes.—At present these are not controlled, but control in the near future is probable.

Cement, Concrete Products, Chalk Lime, Whiting.—These are controlled by the Director of Cement; no conditions are at present imposed, orders being passed in the usual way.

Bricks, Roofing Tiles and Land Drainpipes.—These are controlled by the Director of Bricks. At present it has not been found necessary to impose any conditions, orders being passed in the usual way, but it is emphasised that *merchants should make every effort to exhaust local supplies before going farther afield.*

(*Continued on next page.*)



Commodities made of iron and steel come under the Iron and Steel Distribution Scheme drawn up by the Ministry of Supply (Iron and Steel Control).

Stovegrate and Range Goods (solid fuel), baths, cisterns, cast-iron hot-water boilers and radiators (repairs and maintenance), and some items of builders' ironmongery (*e.g.*, locks, hinges and bolts) for home civil trade (as distinct from specific Government or local authority contracts or orders) are authorised by this Department for manufacture, and goods made under this authorisation will be available for distribution to merchants for sale for essential purposes without further authorisation.

Applications by builders or building owners for authorisation to purchase rainwater and soil goods, cast-iron pipes and fittings, and municipal castings (manhole covers, gratings, iron paving, etc.) should be addressed to the Regional Licensing Officers of the Ministry.

Commodities made of non-ferrous metals come under the Non-Ferrous Metals Controller of the Ministry of Supply.

Timber and Timber Products come under the Timber Controller of the Ministry of Supply or through the various area offices of the Timber Control.

The following commodities are *not* at present the subject of control by the Department: Chimney-pots, Drainpipes (Glazed Ware) and Accessories (but as to land drainpipes (or "Land Tiles") see above); Firebacks; Fireclay ware; Glass, plate and window; Lime—Limestone, Ministry of War Transport (Chalk-lime—Director of Cement); Linoleum and other similar substances, which may be used for "black-out" purposes; Paint and Distemper; Plaster; Putty; Sand and Ballast; Sanitary Earthenware; Stone (the Department concerned is the Ministry of War Transport); Tiled Fireplaces and Hearths; Wall and Floor Tiles, Glazed; Wallpaper; Windows, Metal.

INTERIM PAYMENTS—2

By W. T. CRESWELL, K.C.

INTERIM payments are mainly for the convenience of the contractor; for they enable him to obtain money on account during the progress of the work to meet his liabilities for materials and labour; he can, in general, regard them as being conclusive unless the contract expressly provides that they shall not be so. Many contracts state that no interim certificate shall be conclusive, and that it shall not in any way prejudice the interests of the employer in the final settlement of accounts—that is, the amount of the final certificate—even if the adjustment involves some repayment by the contractor because it is shown that the sum of the interim payments already certified exceeds the total due to him. If the final certificate has been given by the certifier indicated in the contract, honestly and without fraud; and if the contract clearly shows, expressly or by implication, that the parties intend that certificate to be final; then it is binding on both parties. If, however, there is any ambiguity or loophole, the final certificate is open to review at the instance of either party, because (see Robbins and Goddard [1905], 1 K.B. 294), if something which purposes to be conclusive is made subject to review it loses its quality of finality. This holds even when there is some error or mistake owing to the agreement not having been carefully, skilfully or accurately made. So far we have dealt with disputes between employer and contractor. On the other hand, the party suffering may then charge with negligence his architect, engineer or surveyor if, when giving a certificate for an interim payment, he underestimated or overestimated the amount legitimately payable, unless the contract expressly provides for readjustment in the final certificate. This, on the grounds that, in certifying the interim payment in dispute, he was acting only as the agent of his employer, and not (as at the final adjustment) as a quasi-arbitrator between employer and contractor, when, on the basis of any alleged mistake in the amount of the final certificate, he cannot be sued for negligence; only for fraud, if that can be alleged.

D.I.A.

Annual General Meeting.

THE annual general meeting of the Design and Industries Association was held at the R.I.B.A. premises recently, LORD SEMPILL (President) in the chair. After formal business had been dealt with, a general discussion took place on future policy and activities. It was stated that the Council of the Association had decided to organise amongst schools an Essay Competition, with prizes of 10 guineas, 5 guineas and 3 guineas, the subject of the essay to be "The House I Would Like to Live In, with its Equipment and Furnishings." Other proposed activities were to produce a book or series of books dealing with the story of design in England, mainly intended for the younger generation. It was also intended to prepare exhibitions for circulation.

Opinions were expressed by many members that the time had come for the D.I.A. to consider the possible need for reconstituting themselves to fit in with changing conditions.

LT.-GEN. SIR JOHN BROWN suggested that the D.I.A. could serve a very useful part by organising exhibitions which could be circulated among some of the Army camps, where exhibitions and lectures of all kinds were enjoyed and appreciated.

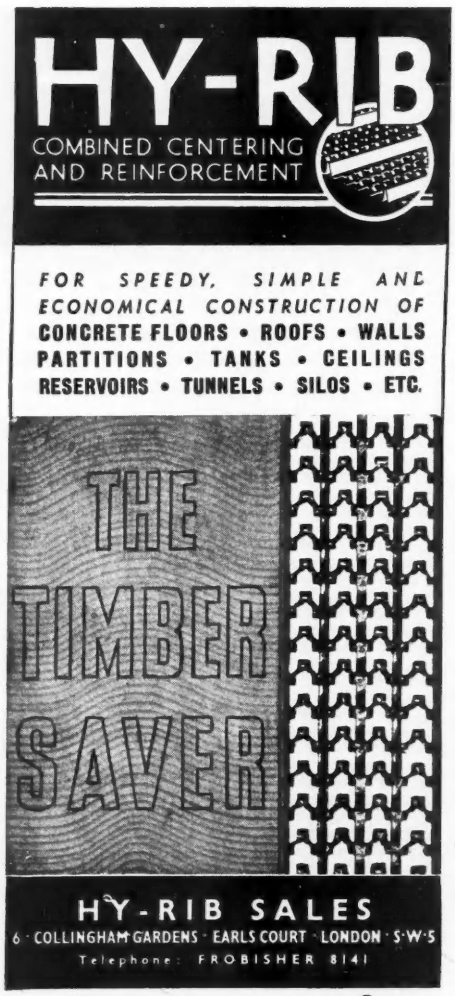
The following Council were elected :—

PRESIDENT: The Lord Sempill.

VICE-PRESIDENTS: Harold Curwen, Sir Ambrose Heal, Charles Holden, F.R.I.B.A., Sir James Morton, Frank Pick, Hamilton T. Smith, the Rt. Hon. Josiah Wedgwood, and the Lord Woolton.

CHAIRMAN OF COUNCIL: F. R. Yerbury, Hon. A.R.I.B.A.; VICE-CHAIRMAN: Commander V. H. Goldsmith; and TREASURER: Mr. J. W. Waterer.

COUNCIL: The Lady Sempill, Miss Himsworth, W. J. Bassett-Lowke, R. Dudley Best, Lt.-Gen. Sir John Brown, N. L. Carrington, F. Chippindale, F. E. Courtney, G. R. W. Crowe, G. Dunn, T. A. Fennemore, John Grey, C. E. Gane, W. H. Hall, G. A. Jellicoe, B. C. Joseph, Lt.-Col. Maxwell, R. D. Russell, H. G. Strauss, M.P., M. Hartland Thomas, and V. V. Tatlock.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ROYAL ENGINEERS' TRADE TRAINING EXHIBITION

A TRADE training exhibition by the School of Military Engineering of the Royal Engineers, Trade Training Wing, was held recently at Chatham. The work of the School was explained to a number of Press representatives by Major Hext, Officer Commanding and chief instructor, and Brigadier Luby, Commandant, Military School of Engineering, Ripon.

The exhibition demonstrated the necessity for sound knowledge and versatility among tradesmen of the Royal Engineers, and the standard of skill demanded. The men were seen at work in the numerous sections, and the methods of training were clearly demonstrated. Briefly, the function of the S.M.E. Training Wing is higher trade training, with the object of bringing the Royal Engineers' Class III tradesmen up to the Class II standard in many trades, including building.

The object of the exhibition and the subsequent tour of the workshops was to show (1) The great variety of jobs the R.E. tradesman may have to do; (2) the standard of craftsmanship required to enable him to meet the demands made upon him; and (3) how the Sapper Class III is trained up to Class II standard. The high standard of work in the various sections was evident. Brigadier Luby said that their object was to make the R.E. tradesman not a specialist but an all-round man prepared to meet the unexpected as well as the expected. A large model on view showed the many difficult jobs that the R.E.s were expected to contend with under the most difficult conditions of modern warfare. The men have to work often independently of supervision, and the sound training they receive makes them resourceful and self-reliant. In the post-war period such training will be of great value to the men and the country generally.

AN EXHIBITION OF RUSSIAN PHOTOGRAPHS

WITH Russia now vitally in the news, it was not surprising that an exhibition of photographs of Russian subjects, by Mr. F. R. Yerbury, on view one day last week at the Savoy Hotel, should have attracted a large attendance.

Many of the photographs were of great interest; taken in strong sunlight, the great buildings appear at their best. Views of The Hermitage, Leningrad, now a picture gallery, were among the most striking. Photographs of Moscow included ancient and modern types of buildings. The section devoted to figure subjects included a picture of Russian women workers in the building trade, so it would appear that a course which has just been adopted in this country has already been in progress in Russia.

Among the architects present were : C. H. Holden, E. Berry Webber, Professor C. H. Reilly, C. E. Elcock, Howard Robertson, G. Grey Wornum, Joseph Emberton, P. D. Hepworth, Cyril Farey, W. F. Granger, L. E. De Soissons, L. H. Bucknell, E. L. Bird, E. J. Carter, Julian Leathart, Raglan Squire, A. Minoprio, J. M. Connell, W. R. Davidge, Joseph Addison, C. L. Sjostrom, Paul Phipps, K. Dalgleish, Rodney Thomas, D. K. Bridgewater, E. B. O'Rorke, Walter Goodesmith, L. M. Gotch, H. Spencely, Humphry Deane, J Murray Easton, Guthlac Wilson, Harold Lewis, E. C. Harris, Col. Hatchard Smith, Miss Jane Drew, and many others. A pleasant hour was passed by the company in admiring Mr. Yerbury's fine photographs, and in the exchange of views on matters of professional interest. One of the photographs is reproduced on page 366.

The exhibition was organised by Messrs. Gyproc Products, Ltd.

SCHOOL NEWS

WELSH SCHOOL OF ARCHITECTURE.

In the recent Scholarship Examination held at the Cardiff Technical College, the following candidates were awarded scholarships for admission to the Welsh School of Architecture, the value of the scholarships being £40 per annum in addition to the normal fees : J. M. Jenkins and F. S. Jennett.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the head of paragraphs are those for the submission of tenders: a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING.

OCTOBER 29

Kilmarnock T.C.—Provision and erection of structural steel framework and corrugated iron roofing at a public office. Burgh Surveyor's Office, 17, Green-st., Kilmarnock.

Wembley T.C. — Concentrating plant house. Boro' Eng. and Sur. Dep. £1 1s.

OCTOBER 30.

Barking T.C.—Steel strengthening for precast concrete lined trench shelters. Boro. Eng and Sur.

NOVEMBER 1.

Birkenhead T.C.—Adaptation of Arrowe Hall as annexe to hospital. Boro. Eng. and Sur.

NOVEMBER 3.

Welwyn Garden City U.D.C.—Decontamination and rescue party depot. W. E. James, Eng. and Sur. Dep. £2 2s.

Whitehaven T.C.—Conversion of Trinity School into British Restaurant. Boro. Sur.

NOVEMBER 5.

***Cheadle and Gatley U.D.C.**—Erection of sub-station. G. P. Stanley, Acting Eng. and Sur. Dep. £1 1s.

NOVEMBER 8.

West Riding C.C.—Pointing of brickwork at Ryhill school. Divisional Clerk for Education, 8, St. John's North, Wakefield.

NOVEMBER 13.

Welton R.D.C.—Brick building with flat concrete roof. Elliott and Brown, Chartered Civil Engineers, Stanley House, Pelham-rd., Nottingham. Dep. £3 3s.

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

OCTOBER 28.

Cumberland C.C.—External painting at Millom secondary school. J. M. Haughan, County Architect, 4, Alfred-st. North, Carlisle.

NOVEMBER 1.

Tiverton T.C.—Exterior painting of 44 houses. Boro. Sur.

NOVEMBER 3.

West Riding C.C.—Internal and external painting of Burnley-rd., school, Mytholmroyd. J. H. Crabtree, Education Offices, Allan House, Sowerby Bridge.

NO DATE.

West Riding C.C.—Interior decorations and plaster repairs at Dawmarsh Modern School. Divisional Clerk, 44, Moorgate-st., Rotherham.

ROAD, SEWERAGE AND WATER WORKS.

OCTOBER 27.

Brixworth R.D.C.—Four static water tanks. Sur. Dep. £1 1s.

Wellington R.D.C.—Waterworks pumping station and incidental works. J. E. Morris, Clerk. Dep. £3 3s.

OCTOBER 28.

Cheadle R.D.C.—Laying of approx. 180 yds. of 6 in. dia. stoneware sewers and five manholes. J. W. Burton, Eng. and Sur. Dep. £1 1s.

OCTOBER 29.

Leatherhead U.D.C. — Two emergency water supply tanks. Eng. and Sur. Dep. £1 1s.

Lydd, New Romney and Romney Marsh Joint Civil Defence Committee.—Brick and concrete water tank. Sur., Town Hall, Lydd.

OCTOBER 31.

Romford T.C.—Digging out and removal of Anderson shelters from various sites. C. G. Alderton, Boro. Eng. and Sur. Dep. 10s. 6d.

NOVEMBER 1.

New Windsor T.C.—Provision and laying of approx. 2,000 yds. super of bituminous non-skid carpet. Boro. Eng. and Sur.

NOVEMBER 3.

Luton T.C.—Static water supply reservoir in reinforced concrete. Boro. Eng. and Sur. Dep. £2 2s.

NOVEMBER 7.

Erith T.C.—48 entrance covers for public shelters. J. H. Clayton, Boro. Eng. and Sur. Dep. £1 1s.

NOVEMBER 8.

Clogher R.D.C. — Laying of 3½ miles of water main, erection of reservoir, and installation of additional filter shell. J. P. Rush, Market-sq., Dungannon.

Downpatrick R.D.C.—Laying water main in Castlewellan. Engineer, 24, Arthur-st., Belfast.

NOVEMBER 13.

Welton R.D.C.—Putting down a 15 in. to 12 in. bore-hole at waterworks pumping station. Elliott and Brown, Chartered Civil Engineers, Stanley House, Pelham-rd. Nottingham.

PUBLIC APPOINTMENTS.

OCTOBER 31.

Cardiff E.C. — Temporary Assistant Lecturer, Welsh School of Architecture. W. J. Williams, Director of Education.

NOVEMBER 7.

Coventry T.C.—Temporary Engineering Assistant. E. H. Ford, City Eng. and Sur.

CURRENT AND PROPOSED NEW BUILDINGS

Adwick-le-Street. — U.D.C. to establish British Restaurants. Plans by W. E. Ellis, Sur.

Audenshaw.—U.D.C. propose additional storage accommodation for Parks and Cemetery Dept.

Belford.—R.D.C. to carry out sewage scheme, at £1,500.

Blackpool.—T.C. propose auxiliary 'bus station. Plans by J. Drake, Boro' Sur.

Bradford.—E.C. propose Youth Centre at Alum-st.

Brandon. — U.D.C. to set up British Restaurant at Esh.

Bredbury and Romiley.—U.D.C. propose adaptation of premises at Romiley for British Restaurant.

Bromsgrove.—Plans approved for extensions to mortuary accommodation at hospital, at £1,075, for Worcestershire C.C. H. Rowe and Son, 38, Foregate-st., Worcester, architects.

Brownhills.—E.C. propose canteens at six schools.

Cheshire.—C.C. propose communal feeding centres at Marple Bridge and Mellor districts.

Cheshire.—E.C. to proceed with additional works on boys' school, Cecil-av., Sale, in course of erection. Plans by E. M. Parkes (F.), Acting County Architect, The Castle, Chester.

Chesterfield.—T.C. propose conversion of Foundry-st. adult school, Whittington Moor into British Restaurant, at £1,511. Plans by W. S. Wilson, Boro' Sur.

Consett.—U.D.C. approved amended plans for alterations to "Crystal House," Medomsley-rd., for T. G. Dodds.

Daventry.—R.D.C. propose British Restaurant at Woodford-cum-Membris.

FEDERATED EMPLOYERS' INSURANCE ASSOCIATION LTD. ESTABLISHED 1904

The Leading Office for

Contract Guarantee Bonds

ALSO

FIRE

WORKMEN'S COMPENSATION

PUBLIC LIABILITY

MOTOR

ETC. ETC.

Head Office:

8 KING STREET, MANCHESTER, 2

London Office:

23, Lawrence Lane, Cheapside, London, E.C.2

Dudley.—T.C. to erect 22 garages. Plans by F. H. Gibbons, Boro' Sur.

Dukinfield.—T.C. propose adaptation of premises for British Restaurant. Plans by E. N. Stannion, Boro' Sur.

Felling-on-Tyne. — Plans approved for workshop for Bowron's Paint Works.—Ministry of Food approved scheme for British Restaurant in High-st., at £875.—U.D.C. to obtain tenders for painting 274 houses on Wardley estate.—Application to be made for sanction to complete houses on the Falla Park estate.—U.D.C. submitted road schemes to Minister of Transport, at £1,390.

Gateshead.—Plans approved for canteen for Wright Anderson and Co., Ltd.

Halifax.—T.C. propose conversion of isolation hospital at Stony Royd into flats. Plans by D. T. Lloyd Jones, Boro' Sur.

Hereford.—T.C. approved: Alterations to canteen for Painter Bros., Ltd., Nicholson and Scriven, Cathedral-chbrs., King-st., architects; additions to offices for Bonner and Sons.

Keighley.—T.C. propose day nurseries.

Leeds.—T.C. propose conversion of crypt of town hall into British Restaurant. Plans by W. S. Cameron, City Eng.

Middlesbrough.—E.C. propose canteens in schools. Plans by F. Meller, Woodlands-rd., Middlesbrough, architect.

Nantwich. — R.D.C. propose drainage scheme for houses at Bunbury, at £1,400. Plans by H. Crabtree, Eng.

Newcastle-on-Tyne.—Plans approved for extensions for Albany Confectionery Co., Ltd.; Page, Son and Bradbury, 75, King-st., South Shields, prepared plans for garage for J. Dampney and Co., Ltd.; Newcastle Breweries, Ltd., Haymarket, Newcastle, to carry out alteration to the "Hare and Hounds."

Oldham.—T.C. propose alterations at Westhulme hospital, at £800. Plans by G. E. Hardy, Boro' Eng.

Pwllheli.—T.C. propose extensions to public abattoirs, at £500. Plans by C. L. V. Roberts, Boro' Sur.

Southampton.—Plans submitted to Corporation: By Weston, Burnett and on behalf of J. R. Viant, workshop; by A. E. Jukes and Son, for A. E. Jukes and Son, offices and workshops; by Blokcrete Co., Ltd., for Blokcrete Co., Ltd., canteen; by W. T. Nicholls, Ltd., for Miss Joan Kimber, partial reconstruction of shop premises; by Percival C. Oxborrow, for Mrs. Butler, mess-room and lavatory; by Ronald W. Small, for S. W. Horlick and Son, cold store; by H. Stevens and Co., Ltd., for Edwin Jones and Co., Ltd., lavatory accommodation.

Stockton-on-Tees.—T.C. to set up four more British Restaurants. Plans by A. Knolles, Boro' Eng.

Stoke-on-Trent.—T.C. propose extensions to remand home, Tunstall.

Tipton.—T.C. propose the improvement and reinstatement of houses. Plans by H. Jennings and Homer (L.), 3-5, Church-st., architects.

Wakefield.—T.C. propose: Day nurseries; alterations to premises for emergency communal feeding centres, at £245; youth centres in Belle Vue and Sandal districts.

Warrington.—T.C. approved: Laundry, Warrington Infirmary, for Board of Management, Wright and Hamlyn, 20, Winmarleigh-st., architects; additions for H. Grindley and Co.; mess-room, conveniences, etc., for J. Crosfield and Sons, Ltd.; additions and new kitchen for Winwick-st. Tanning Co., Ltd.; additions for T. Locker and Co., Ltd.

West Bromwich.—T.C. propose adaptation of premises at Hill Top for British Restaurant, also hostel at Beeches-rd. Plans by J. G. Jefferson, Boro' Sur.

West Riding.—C.C. to establish 15 depots for community feeding on selected sites.

Whitby.—U.D.C. to obtain tenders for demolition of property.

Worcestershire.—C.C. propose conversion of premises between Malvern and Upton into remand home. Plans by H. Rowe and Son, 38, Foregate-st., Worcester, County Architects.

Roofing Felt Supplies.

In our last issue we drew attention to the new regulations authorised by the Director of Roofing, Ministry of Works, which allow manufacturers and merchants to sell roofing felts to consumers from stock without obtaining a permit from the Executive Committee as heretofore. Messrs. D. Anderson and Son, Ltd., of Stretford, Manchester, call our attention to the fact that these regulations apply to the products of all manufacturers and govern all stocks of roofing felt.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st JUNE, 1941

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.
Aberavon	1/10½	1/5¾
Aberdare	1/10½	1/5¾
Abergavenny	1/10½	1/5¾
Abingdon	1/9	1/4½
Accrington	1/10½	1/5¾
Aldeburgh	1/7	1/3
Aldershot	1/9	1/4½
Alfreton	1/10½	1/5¾
Alnwick	1/10	1/5¼
Altrincham	1/10½	1/5¾
Amble	1/10	1/5¼
Amersham	1/9	1/4½
Ammanford	1/10½	1/5¾
Andover	1/8½	1/4½
Ardingly	1/8½	1/4½
Arundel	1/8½	1/4¼
Ascot	1/8½	1/4½
Ashby-de-la-Zouch	1/10½	1/5¾
Ashford (Kent)	1/8½	1/4¼
Ashford (Middlesex)	1/10½	1/5¾
Ashington	1/10	1/5½
Ashtead	1/10½	1/5¾
Ashton-under-Lyme	1/10½	1/5¾
Aylesbury	1/8½	1/4½
Aylsham	1/7½	1/3½
Bagshot	1/8½	1/4½
Banbury	1/8½	1/4¼
Barnsley	1/10½	1/5¾
Barnstaple	1/8½	1/4½
Barrow-in-Furness	1/10½	1/5¾
Barry	1/10½	1/5¾
Basingstoke	1/8½	1/4½
Bath	1/10	1/5¼
Batley	1/10½	1/5¾
Beaconsfield	1/9	1/4½
Beccles	1/7	1/3
Bedford	1/10	1/5½
Berkhamsted	1/8½	1/4¼
Berwick	1/10	1/5¼
Beverley	1/10½	1/5¾
Bexhill-on-Sea	1/9	1/4½
Bideford	1/8½	1/4¼
Biggleswade	1/8½	1/4¼
Billericay	1/8	1/3¾
Birchington	1/8½	1/4½
Birkenhead	‡§2/0½	¶
Birmingham	†1/10½	1/5¾
Bishop Auckland	1/10½	1/5¾
Bishop's Stortford	1/9½	1/5
Blackburn	1/10½	1/5¾
Blackpool	1/10½	1/5¾
Blyth	1/10½	1/5¾
Bognor Regis	1/8½	1/4¼
Bolton	1/10½	1/5¾
Bournemouth	1/9½	1/5
Bracknell	1/8½	1/4½
Bradford	1/10½	1/5¾
Bradford-on-Avon	1/7½	1/3½
Braintree	1/8½	1/4½
Brentwood	1/10	1/5¼
Bridgwater	1/9	1/4½
Bridlington	1/10	1/5½
Brighouse	1/10½	1/5¾
Brighton	1/9½	1/5
Bristol	1/10½	1/5¾
Broadstairs	1/8½	1/4½
Bromsgrove	1/10	1/5½
Buckley	1/10½	1/5¾
Bungay	1/6½	1/2½
Burnham-on-Crouch	1/7	1/3
Burnley	1/10½	1/5¾
Burslem	1/10½	1/5¾
Burton-on-Trent	1/10½	1/5¾
Bury	1/10½	1/5¾
Bury St. Edmunds	1/8	1/3½
Buxton	1/10	1/5¼
Byfleet	1/9	1/4½
Cambridge	1/10½	1/5¾
Canterbury	1/8½	1/4½
Cardiff	1/10½	1/5¾
Carlisle	1/10½	1/5¾
Carnforth	1/10½	1/5¾
Castleford	1/10½	1/5¾
Caterham	1/10½	1/5¾
Chard	1/7½	1/3½
Chatham	1/9½	1/5
Chelmsford	1/10	1/5¼
Cheltenham	1/9½	1/5
Chepstow	1/10	1/5¼
Chertsey	1/9½	1/5
Chester	1/10½	1/5¾
Chesterfield	1/10½	1/5¾
Chichester	1/8½	1/4½
Chorley	1/10½	1/5¾
Cirencester	1/8	1/3¾
Clacton	1/8½	1/4½
Clevelevs	1/10½	1/5¾

	Crafts-men.	Lab-ourers.
Clitheroe	1/10½	1/5¾
Cobham (Surrey)	1/9½	1/5
Colchester	1/10	1/5¼
Colwyn Bay	1/9½	1/5
Congleton	1/10	1/5¼
Coventry	1/10½	1/5¾
Cranbrook	1/8½	1/4½
Cranleigh	1/8½	1/4¼
Crawley	1/8½	1/4½
Crewe	1/10	1/5¼
Cromer	1/7½	1/3½
Crowborough	1/8½	1/4½
Cuckfield	1/8½	1/4¼
Darlington	1/10½	1/5¾
Darwen	1/10½	1/5¾
Daventry	1/9	1/4½
Deal	1/8½	1/4½
Denbigh	1/9½	1/5
Derby	1/10½	1/5¾
Devizes	1/7½	1/3½
Dewsbury	1/10½	1/5¾
Didcot	1/8½	1/4½
Diss	1/7	1/3
Doncaster	1/10½	1/5¾
Dorchester	1/8	1/3½
Dorking	1/9	1/4½
Dover	1/8½	1/4½
Dovercourt	1/8½	1/4½
Driffield	1/9	1/4½
Droitwich	1/10	1/5¼
Dudley	1/10½	1/5¾
Dunstable	1/9	1/4½
Durham City	1/10½	1/5¾
Eastbourne	1/9½	1/5
E. Glam. (Mon. Val.)	1/10½	1/5¾
East Grinstead	1/8½	1/4½
Edenbridge	1/8½	1/4¼
Ely	1/7½	1/3½
Epping	1/10½	1/5¾
Exeter	1/10	1/5¼
Exmouth	1/9	1/4½
Fakenham	1/7½	1/3½
Falmouth	1/9	1/4½
Fareham	1/9½	1/5
Faversham	1/8½	1/4¼
Felixstowe	1/9½	1/5
Filey	1/9	1/4½
Fleetwood	1/10½	1/5¾
Flint	1/10½	1/5¾
Folkestone	1/8½	1/4½
Frinton-on-Sea	1/8½	1/4½
Frome	1/7½	1/3½
Gainsborough	1/9½	1/5
Gateshead	1/10½	1/5¾
Gillingham (Kent)	1/9½	1/5
Glossop	1/10½	1/5¾
Gloucester	1/10	1/5¼
Godalming	1/8½	1/4½
Goole	1/10½	1/5¾
Gosport	1/10	1/5¼
Grantham	1/9½	1/5
Gravesend	1/10	1/5¼
Great Yarmouth	1/8½	1/4½
Grimsby	1/10½	1/5¾
Guildford	1/8½	1/4½
Guilsborough	1/9	1/4½
Halifax	1/10½	1/5¾
Hanley	1/10½	1/5¾
Harpenden	1/9½	1/5
Harrogate	1/10½	1/5¾
Hartlepools	1/10½	1/5¾
Harwich	1/8½	1/4½
Haslemere	1/8½	1/4½
Hastings	1/8½	1/4½
Hatfield	1/10	1/5¼
Haywards Heath	1/8½	1/4½
Hednesford	1/10	1/5¼
Hemel Hempstead	1/9½	1/5
Henley-on-Thames	1/8½	1/4½
Hereford	1/8½	1/4½
Herne Bay	1/8½	1/4½
Hertford	1/10	1/5¼
Heysham	1/10½	1/5¾
Hitchin	1/9½	1/5
Hoddesdon	1/10	1/5¼
Holt (Norfolk)	1/7	1/3
Horley	1/8½	1/4½
Horsham	1/8½	1/4½
Horwich	1/10½	1/5¾
Huddersfield	1/10½	1/5¾
Hull	1/10½	1/5¾
Hunstanton	1/7½	1/3½
Huntingdon	1/8	1/3½
Ilfracombe	1/8½	1/4
Ingatestone	1/9	1/4½
Ipswich	1/10	1/5¼

	Crafts-men.	Lab-ourers.
Isle of Thanet	1/8½	1/4½
Isle of Wight	1/8	1/3½
Keighley	1/10½	1/5¾
Kenilworth	1/10½	1/5¾
Kettering	1/10½	1/5¾
Kidderminster	1/10	1/5¼
King's Lynn	1/8½	1/4½
Kirkham	1/10½	1/5¾
Knowle	1/10	1/5¼
Lancaster	1/10½	1/5¾
Leamington	1/10½	1/5¾
Leatherhead	1/9½	1/5
Leeds	1/10½	1/5¾
Leicester	1/10½	1/5¾
Leighton Buzzard	1/7½	1/3½
Letchworth	1/9½	1/5
Lewes	1/8½	1/4¼
Lichfield	1/9½	1/5
Lincoln	1/10½	1/5¾
Littlehampton	1/8½	1/4¼
Liverpool	‡§2/0½	¶
Llandudno	1/9½	1/5
Llanelly	1/10½	1/5¾
London—		
12m. radius	*2/0	1/6¾
12-15 m. radius	*1/11½	1/6½
Long Eaton	1/10½	1/5¾
Longton	1/10½	1/5¾
Loughborough	1/10½	1/5¾
Louth	1/9	1/4½
Lowestoft	1/8½	1/4¼
Luton	1/10	1/5¼
Macclesfield	1/10	1/5¼
Maidenhead	1/9½	1/5
Maidstone	1/9	1/4½
Malvern	1/9	1/4½
Manchester	1/10½	1/5¾
Manningtree	1/7½	1/3½
Mansfield	1/10½	1/5¾
March	1/7½	1/3½
Margate	1/8½	1/4¼
Market Harborough	1/9½	1/5
Matlock	1/9	1/4½
Melton Constable	1/7	1/3
Melton Mowbray	1/9½	1/5
Merthyr	1/10½	1/5¾
Middlesbrough	1/10½	1/5¾
Middleton	1/10½	1/5¾
Middlewich	1/10	1/5¼
Milford Haven	1/9	1/4½
Morecambe	1/10½	1/5¾
Morley	1/10½	1/5¾
Mundesley	1/7½	1/3½
Nantwich	1/10	1/5¼
Nelson	1/10½	1/5¾
Newark-on-Trent	1/10	1/5¼
Newbury	1/8½	1/4¼
Newcastle-on-Tyne	1/10½	1/5¾
Newcastle-u.-Lyme	1/10½	1/5¾
New Forest	1/8½	1/4½
Newmarket	1/8½	1/4½
Newport, Mon.	1/10½	1/5¾
Newport Pagnell	1/8½	1/4½
Northampton	1/10½	1/5¾
Norwich	1/10½	1/5¾
Nottingham	1/10½	1/5¾
Nuneaton	1/10½	1/5¾
Oakham	1/9	1/4½
Oldham	1/10½	1/5¾
Ormskirk	1/10½	1/5¾
Oxford	1/10	1/5¼
Oxted	1/9	1/4½
Paignton	1/10	1/5¼
Peterborough	1/10	1/5¼
Plymouth	1/10½	1/5¾
Pontefract	1/10½	1/5¾
Pontypridd	1/10½	1/5¾
Port Talbot	1/10½	1/5¾
Portsmouth	1/10	1/5¼
Preston	1/10½	1/5¾
Pulborough	1/8½	1/4½
Ramsgate	1/8½	1/4½
Reading	1/10	1/5¼
Redditch	1/10	1/5¼
Redhill	1/9	1/4½
Ripon	1/9	1/4½
Rochdale	1/10½	1/5¾
Rochester	1/9½	1/5
Rugby	1/10½	1/5¾
St. Albans	1/10	1/5¼
St. Helens	1/10½	1/5¾
St. Neots	1/8	1/3¾
Saffron Walden	1/7½	1/3½
Salisbury City	1/8	1/3¾
Salisbury Plain	1/9½	1/5
Sawbridgeworth	1/9	1/4½

	Crafts-men.	Lab-ourers.
Saxmundham	1/7	1/3
Scarborough	1/10	1/5¼
Scunthorpe	1/10½	1/5¾
Selby	1/10½	1/5¾
Sevenoaks	1/9	1/4½
Sheerness	1/8½	1/4¼
Sheffield	1/10½	1/5¾
Shipley	1/10½	1/5¾
Shoeburyness	1/10	1/5¼
Shoreham	1/9½	1/5
Shrewsbury	1/10	1/5¼
Sittingbourne	1/8½	1/4¼
Skegness	1/9½	1/5
Sleaford	1/9	1/4½
Slough	1/9½	1/5
Southampton	1/10	1/5¼
Southend-on-Sea	1/10	1/5¼
Southport	1/10½	1/5¾
South Shields	1/10½	1/5¾
Spalding	1/8½	1/4½
Stafford	1/10	1/5¼
Staines	1/9½	1/5
Stamford	1/9½	1/5
Stevenage	1/9½	1/5
Stockport	1/10½	1/5¾
Stockton-on-Tees	1/10½	1/5¾
Stoke-on-Trent	1/10½	1/5¾
Stourbridge	1/10½	1/5¾
Stourport	1/10	1/5¼
Stowmarket	1/7½	1/3½
Stratford-on-Avon	1/9½	1/5
Stroud	1/9½	1/5
Sunderland	1/10½	1/5¾
Sutton Coldfield	1/10½	1/5¾
Swaffham	1/7	1/3
Swanage	1/8½	1/4¼
Swansea	1/10½	1/5¾
Swindon	1/9	1/4½
Tamworth	1/10	1/5¼
Taunton	1/9	1/4½
Tenterden	1/8½	1/4¼
Thames Haven	1/10½	1/5¾
Thetford	1/8	1/3¾
Thorpe Bay	1/10	1/5¼
Todmorden	1/10½	1/5¾
Tonbridge	1/9	1/4½
Torquay	1/10	1/5¼
Totnes	1/8½	1/4¼
Trowbridge	1/7½	1/3½
Truro	1/8	1/3¾
Tunbridge Wells	1/9	1/4½
Uppingham	1/9	1/4½
Uttoxeter	1/9	1/4½
Wakefield	1/10½	1/5¾
Walsall	1/10½	1/5¾
Walsden	1/10½	1/5¾
Walton-on-Naze	1/8½	1/4¼
Ware	1/10	1/5¼
Warminster	1/7½	1/3½
Warrington	1/10½	1/5¾
Warwick	1/10½	1/5¾
Wellington R.D.	1/10	1/5¼
Welwyn	1/9½	1/5
Welwyn Gar. City	1/10½	1/5¾
Wells (Norfolk)	1/7	1/3
West Bromwich	1/10½	1/5¾
Westcliff-on-Sea	1/10	1/5¼
Weston-super-Mare	1/9½	1/5
Weybridge	1/9½	1/5
Weymouth	1/8½	1/4¼
Whitby	1/9½	1/5
Whitstable	1/8½	1/4½
Widnes	1/10½	1/5¾
Wigan	1/10½	1/5¾
Wigton	1/9	1/4½
Willington	1/10½	1/5¾
Wilmslow	1/10½	1/5¾
Winchester	1/9	1/4½
Windermere	1/9	1/4½
Windsor	1/9½	1/5
Wisbech	1/8	1/3¾
Witham	1/8½	1/4½
Woking	1/9	1/4½
Wokingham	1/8½	1/4½
Wolverhampton	1/10½	1/5¾
Woodbridge	1/8	1/3¾
Worcester	1/10	1/5¼
Workington	1/9	1/4½
Worksop	1/10	1/5¼
Worthing	1/8½	1/4½
Wrexham	1/10	1/5½
Wroxham	1/8	1/3¾
Wycombe	1/9½	1/5
Wymondham	1/7½	1 3½
Yeovil	1/9	1/4½
York	1/10½	1/5¾

* Painters 1d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 2/1.
¶ Tradesman's Labourers, 1/6½. Navvies and General Labourers, 1/6¼.
§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

NOTE.—Carpenters and Joiners in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.

For Building Trade Wages in Scotland, see page 384.

PRICES CURRENT OF MATERIALS*

Note: **Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery. At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.**

BRICKS, &c.

The price for Stock Bricks has been altered to minimum price at works for full lorry loads. Sittingbourne district. A quotation for cartage should be obtained as the haulage question is difficult.

	£ s. d.
First Hard Stocks ..... per 1,000	4 5 6
Second Hard Stocks ..... „	3 18 6
Mild Stocks ..... „	3 5 6
Single Rough Stocks ..... „	2 19 6
Third Common Stocks ..... „	2 10 0

2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	King's Cross Station per 1,000 s. d.	To sites in W.C. District per 1,000 s. d.
Pressed	51 9	58 3
Keyed	53 9	60 3
Single Bullnose	71 9	78 3
Rustics	71 9	78 3
Whites	72 3	78 3

	£ s. d.
White Midhurst Best selected (delivered London site)	5 10 0
Best blue Pressed Staffs. (London Stns.)	10 2 0
Do. Bullnose (London Stns.)	10 12 0
Blue Wire Cuts (London Stns.)	8 19 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.		£ s. d.
2½ in. 10 0 0	3 in.	12 0 0

GLAZED BRICKS. (London Stns.)

Best White Ivory and Salt Glazed Stretcher 28 0 0	D'ble Str'tch'rs D'ble Headers	36 10 0 33 10 0	
Headers 27 10 0	One side&two ends	37 10 0	
	Two sides&one end	38 10 0	
Quoins, Bullnose and 4½ in. Flats 34 10 0	Splays and Squints	36 0 0	

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

	s. d.		s. d.
2" per yd. sup.	2 3	3" per yd. sup. ..	2 9
2½" „ „	2 6	4" „ „ ..	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 9	3" per yd. sup. ..	2 6
2½" „ „	2 1	4" „ „ ..	3 4

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 6
Size 12 x 9 x 2½ „	2 9
Size 12 x 9 x 3" „ „	3 3
Size 12 x 9 x 4" „ „	3 7

Plus 2d. for smooth one side, and 4d. for smooth both sides.

Delivered : Free on site London area.

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

SAND.

Thames Ballast	9 6	per yd.
Pit Ballast	9 0	„
Pit Sand	11 6	„
Washed Sand	13 0	„
¾ in. Shingle	10 0	„
¾ in. Broken Brick	15 6	„
Pan Breeze	9 6	„

delivered 2 miles radius Paddington.

CEMENT.

Best British Portland Cement. Standard Specification. delivered London Area. £ s. d.

6 ton loads and upwards site ..... per ton	2 9 6
1 ton to 6 tons site	2 12 6
Alongside Vauxhall in 80 ton lots	2 7 0
"Ferrocrete" Rapid Hardening Cement—	
6 ton loads and upwards site	2 15 6
1 ton to 6 tons site	2 18 6
Alongside Vauxhall in 80 ton lots	2 13 0

Stored in Reserved Bins at works. 1s. 6d. per ton extra.

"Aquacrete" Water Repellent, "Blue Circle" cement, 30s. per ton extra on ordinary "Blue Circle" prices.

"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement, in 6-ton lots .. 3 19 6

"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement 10 5 0

"417" Cement (Ultra Rapid Hardening) Delivered site London Area in 6 ton lots and upwards ..... per ton 3 9 6

Plus packages at current prices.

Super Cement (Waterproof), *bags extra* 3 19 6

NOTE.—Paper bags will be charged at the rate of 6s. nett per ton. Jute sacks charged 1s. 9d. nett each and 1s. 6d. nett each allowed if returned to works within two weeks, in good condition.

Carriage will be paid by makers on returned empty jute sacks.

	£ s. d.		£ s. d.
Roman cement	8 10 0	Keene's Cement, White	7 0 0
Parian Cement	7 0 0	„ „ Pink	6 10 0

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	4 0 0	Sirapite, Coarse ..	4 5 6
„ White ..	4 7 6	„ Finish ..	4 13 6
Pioneer	4 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue Lias Lime	3 7 6	Grey Stone Lime	2 17 6
		Chalk Lime	2 17 6
Granite Chippings	1 15 0	Hair per cwt. ..	3 5 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d. if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £2 12s. 6d. in 6-ton lots at railway depot.

STONE.

BATH STONE.—Delivered in railway trucks at

	s. d.
Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	3 3½

BEER STONE—RANDOM BLOCK—

Free on rail at Seaton Station.. per ft cube	2 3
Delivered free on rail Nine Elms, S.R. „	3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.	

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., ...per ft. cube	4 7
Do. do. delivered on road waggons as above stations ..... per ft. cube	4 7
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.	

HOPTON-WOOD STONE—

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11

YORK STONE, BLUE—*Robin Hood Quality*.

Delivered at any Goods Station, London.

6 in. sawn two sides landings to sizes (under 30 ft. super) .....per ft. super	5 6
6 in. rubbed two sides, ditto .... „	6 3
3 in. sawn two sides slabs (random sizes) ..... „	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... „	1 8½
1½ in. to 2 in. ditto ..... „	1 4½

HARD YORK—

Delivered at any Goods Station, London.

Scrappled random blocks .....per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) .....per ft.super	5 7½
6 in. rubbed two sides, ditto .... „	6 9
4 in. sawn two sides slabs (random sizes) ..... „	3 5
3 in. ditto ditto ..... „	2 8
2 in. self-faced random flags.....per yd. super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Small section cills and copings, 11s.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.

	s. d.		Foot cube. £ s. d.
Dry English Wainscot Billets..	16 0	to	0 18 0
Dry Slavonian Billet Wainscot ..	17 0	to	1 0 0
Dry Cuba Mahogany logs	21 0	to	1 4 0
Square-edged Honduras Mahogany			0 16 6
Log Cut Honduras Mahogany			0 17 6
American Figured Oak			0 13 0
American Plain Oak			0 12 6
Jap. Figured Oak			0 13 0
Jap. Plain Oak			0 12 6
Teak			0 15 6
American Whitewood			0 12 6
African Whitewood			0 8 0
African Mahogany			0 11 0
Australian Walnut			0 19 0
Australian Silky Oak			0 12 6
Best Scotch glue ..... per cwt.			5 0 0
Liquid glue .....per gallon			1 2 0

Having Secured the Contract— what about the Steel Scaffolding?

TUBULAR

—S & C—

SCAFFOLDING

For the lowest Prices apply to the Oldest Firm in the Scaffolding Trade.

STEPHENS & CARTER LTD.

The British Steel Scaffolding Co.

731-761, HARROW RD., N.W.10.

Telephone No. Ladbroke 1191 (6 lines).

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE

	Minimum. £ s. d	Maximum. £ s. d.
Scantlings in imported sizes, 2 in. by 3 in. to 4 in. by 11 in.	43 10 0	53 0 0

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1 in. by 9 in. }	67 10 0

	Per square. s. d.
1 in. plain edge flooring	53 0
1¼ in. ditto	66 6
1 in. tongued and grooved	53 0
1¼ in. ditto	66 6

MATCHING.

	Per square. s. d.
¾ in.	37 6
¼ in.	42 0
1 in.	55 0

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	45 5 0	18 by 10	24 0 0
22 by 12	37 17 6	18 by 9	22 12 6
22 by 11	34 2 6	16 by 10	21 10 0
20 by 12	33 0 0	16 by 8	16 12 6
20 by 10	30 5 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons..... Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£5 6 6
Ditto hand-made ditto	6 7 6
Ornamental ditto	6 14 0
Hip and valley tiles (per dozen) { Hand-made	0 12 9
{ Machine-made	0 12 3

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION PER TON—

R.S. Joists, cut and fitted	£23 10 0
Plain Compound Girders	26 0 0
„ „ Stanchions	28 10 0
In Roof Work	33 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	23 0 0	⅜ in. to ½ in...	21 10 0
⅝ in.	22 0 0	⅝ in. to 2½ in...	21 0 0

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½ % gross.

	Tubes. ¼"/6" %	Tubulars. and ¼"/6" %	19/24 %	Flanges. ¼"/2" %	2½"/6" %
Light weight ..	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv.lightweight	40½	—	38½	39½	48½
Galv.heavyweight	31	31	31	29½	41

Tubes and tubulars sizes ¼"/⅛" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/5	1/1½	4½d.
3½ in.	1/6½	1/3½	4½d.
4 in.	1/6½	1/5	6½d.
4½ in.	1/7½	1/7½	8d.
5 in.	1/11	1/9	8½d.

O.G. GUTTERS.

3 in.	1/9½	1/6½	4½d.
3½ in.	2/0½	1/6½	6½d.
4 in.	2/0½	1/7½	7½d.
4½ in.	2/1½	1/10½	8½d.
5 in.	2/7½	2/1½	9½d.

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe	Bends. Stock angles.	Branches.
2 in.	2/1½	1/5	2/1
2½ in.	2/2½	1/7½	2/5½
3 in.	2/7½	2/0½	3/0½
3½ in.	3/1	2/5	3/6
4 in.	3/7	2/10½	4/2½

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	3/6½	2/5½	3/0½
2½ in.	4/2½	2/9	3/9½
3 in.	4/6½	3/0½	4/6
3½ in.	4/7½	3/9½	5/3
4 in.	5/0½	4/2½	6/0½

L.C.C. COATED DRAIN PIPE.

	Pipe.	Bends.	Branches.
3 in. per yd. in 9 fts.	5/5	6/3	9/11
cwt. qr. lbs.			
4 in. 1 1 20.....	7/11	7/1	12/6
5 in. 1 2 22.....	9/7	12/9	19/3
6 in. 2 0 6	11/5	14/8	25/6

Gaskin, 75/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—*(contd.)*

	Per ton basis in London. £ s. d.
IRON.—Staffordshire Crown, Merchant quality	18 7 6
IRON.—Staffordshire Marked Bars	19 7 6
Mild Steel Bars	19 15 0
Mild Steel Hoops	21 10 0
	Ex Merchant's Stock, per ton (two-ton lots).
Soft Steel Sheets, C.R. and C.A.—	
20 gauge	24 17 6
24 gauge	25 2 6
26 gauge	25 17 6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.	
20 gauge	27 0 0
24 gauge	27 10 0
26 gauge	28 15 0
Galvanised Flat Sheets, C.R. and C.A.—	
20 gauge	28 10 0
24 gauge	29 0 0
26 gauge	30 5 0
	Per ton. £ s. d.
Cut Nails, 3 in. and up	28 10 0
	ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

PLUMBERS' BRASS WORK.

Delivered in London.
To pass Met. Water Board.

CRUTCH HEAD S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
37/- 58/6 per doz.

CHROMIUM PLATED TOILET S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
52/3 72/- per doz.

S.D. STOP COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
41/- 59/- 97/- 228/- 324/- 540/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
53/- 84/- 136/- 252/- 405/- 664/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
9/11 11/- 17/6 29/3 49/6 71/- per doz.

HEAVY CROYDON BALL VALVES. SCREW IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
45/- 73/- 120/- 210/- 297/- per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
11/9 14/5 21/6 37/9 54/- 59/6 per doz.

BRASS SLEEVES.

1¼ in. 2 in. 3 in. 3½ in. 4 in.
10/9 13/6 25/- 37/- 46/- per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

1¼ in. 1½ in. 2 in. 3 in.
8 lb. Lead P. .. 26/- 34/8 48/3 84/- per doz.
8 lb. Lead S. .. 32/6 41/6 60/- 108/- „

SOLDER.—Plumbers, 1/5. Tinmen's, 1/8. Blow pipe, 1/10 per lb.

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	35 10 0
Pipe in coils	35 0 0
Soil pipe	40 10 0
Compo pipe	42 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton } £18 0 0.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in drums	per gallon	0 5 4
Boiled Linseed Oil, in drums	„	0 5 7
Turpentine, in drums (10 gals.)	„	0 7 5
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks).		63 0 0

Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.

GENUINE WHITE LEAD PAINT—
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots, per ton delivered — £ s. d. 87 0 0

Red Lead, Dry (packages extra)	per ton	54 0 0
Best Linseed Oil Putty (1 ton lots)	per cwt.	1 1 0
Size. XD quality	fkn.	0 4 3

Turpentine substitute can be obtained and prices vary according to the quality from 3/- gallon upwards.

		£ s. d.
SNOWCEM CEMENT PAINT	per cwt.	2 16 0
C.M.C. CAMOUFLAGE PAINT	„	2 16 0

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 16 0
Fine do.	„	0 18 0
Fine Copal	„	1 0 0
Pale Copal	„	1 2 0
Pale Opal Carriage	„	1 6 0
Best do. do.	„	1 14 0
Floor Varnish	Inside	1 0 0
Fine Pale Paper	„	1 0 0
Fine Copal Cabinet	„	1 4 0
Fine Copal Flatting	„	1 2 0
Hard Drying Oak	„	1 0 0
Fine Hard Drying Oak	„	1 1 6
Fine Copal Varnish	„	1 2 6
Pale do.	„	1 14 0
Best do.	„	1 4 6
Best Japan Gold Size	„	1 14 6
Best Black Japan		0 12 0
Oak and Mahogany Stain (water)		0 14 0
Brunswick Black		0 9 6
Berlin Black		0 16 0
Knotting (patent)		0 17 0
French and Brush Polish		0 14 0
Liquid Dryers in Terebene		0 11 0
Cuirass Black Enamel		0 9 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.
ORDINARY GLAZING QUALITY (O.Q.) AND SELECTED GLAZING QUALITY (S.Q.).
PER FOOT SUPER.

In sizes not exceeding 80 in. long or 48 in. wide or 110 united inches.

	O.Q.	S.Q.
18 oz. in 300 ft. cases	2½d.	2¾d.
24 oz. „ 200 ft. „	3½d.	4d.
26 oz. „ 200 ft. „	3¾d.	4¼d.
32 oz. „ 200 ft. „	5¼d.	6¼d.
24 oz. „ 300 ft. „	3¼d.	3¾d.
26 oz. „ 300 ft. „	3¾d.	4¼d.
32 oz. „ 300 ft. „	5¼d.	6¼d.
24 oz. Obscured Sheet		6¼d.
Fluted, 21 oz.		9d.
Enamelled, 18 oz.		5¼d.
„ 24 oz.		6¾d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.
Over 500 ft. super of all kinds.

	Per ft.
Rolled plate, ¼ in.	5¼d.
Rough cast double rolled, ⅛ in.	6¼d.
Rough cast double rolled, ¼ in.	6¾d.
Figured rolled, and Cathedral, white	6¾d.
Figured rolled and Cathedral, tinted	9¼d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10
"Calorex" Sheet, 21 oz.	2 6
„ „ 32 oz.	4 0
„ Cast, ¼ in. thick	0 10
„ „ ⅜ in. thick	1 0
„ „ ½ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
„ „ „ ⅜ in. thick	1 0
„ „ „ ½ in. thick	1 2

"VITA" GLASS.

	Per ft. s. d.
"Vita" Plate Glass, about ⅛ in. thick	
To 7 ft. super	5 0
Over 7 ft. super	7 6
"Vita" Sheet Glass, about 18/20 oz.	2 0
Cathedral "Vita" Glass :	
¼ in. thickness	2 0
⅜ in. „	3 0
⅜ in. Georgian Wired "Vita" Glass	3 6

GLASS BRICKS.

	s. d.
P.B. 1—8 in. × 4¼ in. × 3¼ in.	2 3 each nett
P.B. 2—5½ in. × 5½ in. × 3¼ in.	2 0 „
P.B. 3—7½ in. × 7½ in. × 3¼ in.	3 0 „
P.B.32—7¾ in. × 7¾ in. × 3¼ in.	3 0 „
Radiused Corner Bricks to match up with—	
P.B. 2	3 9 each nett
P.B. 3	5 0 „
P.B.32	5 0 „

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from October 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A1	A2	A3	B	B1
Craftsmen	1/11½	1/11	1/10½	1/10	1/9½	1/9
Labourers	1/6	1/5¾	1/5½	1/5	1/4½	1/4¼

Aberdeen	A	Dumfriesshire	A2	Inverness	*	Perthshire	A2
Ayrshire	A	Dundee	A	Inverurie	A1	Peterhead	A1
Banff	B	Dunoon	A	Kincardineshire	A2	Renfrewshire	A
Berwickshire	A2	East Fife	A	Kinross-shire	A	Rothesay	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A	Roxburghshire	A2
Broughty Ferry	A	Edinburgh	A	Midlothian	A	St. Andrews	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A	Selkirkshire	A2
Doune	A	Forfarshire	A2	Moray and Nairn	B	Stewartry	A2
Dunblane	A	Glasgow	A	Newport	A	Stirlingshire	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A2	Stornoway	A2
Dumfries	A1	Hamilton	A	Perth	A	Tayport	A
						West Lothian	A

* This town has its own rates : Masons, 1/8½ ; Carpenters, 1/8½ ; Slaters, 1/8½ ; Plumbers, 1/9 ; Plasterers, 1/9½, but 1/10 is paid owing to the scarcity at present ; Painters, 1/8½ and Labourers, 1/4

The information given in this table is copyright. Rates of wages in England and Wales are given on page 382.

WILL

(1) Clean Paint.

(2) Prepare for repainting.

(3) Strip Varnish Paint and Paper (concentrated).

BETTER . . .

QUICKER . . .

CHEAPER

Send Now for FREE SAMPLE to:—

J. MANGER & SON, LTD.

Dept. B.11, KINGSLAND, LONDON, E.8.

TRY FOR YOURSELF!

5

THE SCOTTISH BUILDER

NEW BUILDINGS

DUNDEE.—BUILDING.—Corporation intend to erect British Restaurant, the architect being David McKay, Municipal Buildings.

GLASGOW. — BUILDING.—Plans prepared for reconstruction and extensions, for which the architect is Robert Ewan, Wellington-chbrs., 19, Waterloo-st., Blythswood, Glasgow.

LANARKSHIRE. — CANTEEN.—Plans prepared for canteen, the architect being John G. Dunn, Greenlees-rd., Cambuslang.

MILNGAVIE. — CANTEEN.—Plans prepared for canteen at the public school, Joseph Weekes, 15, Park-circus, Glasgow, architect.

VALE-OF-LEVEN. — CANTEEN.—Plans prepared for canteen at the Academy, the architect being Joseph Weekes, 15, Park-circus, Kelvingrove, Glasgow.

WAR-TIME BUILDING BULLETIN

NO. 17.—RESISTANCE OF REINFORCED CONCRETE STRUCTURES TO AIR ATTACK.

A new War-time Building Bulletin, No. 17,* has been issued by the Building Research Station of the Department of Scientific and Industrial Research giving notes on the resistance of reinforced concrete structures to air attack. Evidence obtained from an extensive survey of damaged structures shows that modern reinforced concrete structures of good design stand up remarkably well to high-explosive and fire, but that certain precautions may be taken in design which increase the resistance of the normal structure to air attack without any appreciable increase in cost. The Bulletin, which was prepared with the assistance of Mr. W. L. Scott, M.Inst. C.E., M.I.Struct.E., contains a list of these precautions, intended for the use of architects and engineers working on the design of war-time buildings.

* War-time Building Bulletin No. 17—"Resistance of Reinforced Concrete Structures to Air Attack." Published by H.M. Stationery Office, price 6d. net.

EMPLOYMENT OF WOMEN IN BUILDING

N.J.C. DECISION.

THE National Joint Council for the Building Industry has issued a memorandum of a war-time agreement between the parties to the National Joint Council for the Building Industry (and incorporated as a decision of that Council) on the Employment of Women in the Building Industry during the period of the war. This is as follows :—

Whereas, for the purpose of achieving the maximum effort in prosecuting the war, it is an essential part of the policy of H.M. Government to utilise the services of women in industry so that the services of available man-power may be utilised to the best effect;

And whereas the present shortage of male labour has resulted in the employment of women in the building industry, particularly on certain processes in woodworking shops or factories for which they are suitable and for which they can readily be trained;

And whereas all the parties hereto consider it desirable that the conditions under which women shall be employed in the industry shall be regulated on an agreed national basis, the matter has therefore been referred to the parties to the National Joint Council for the Building Industry;

It is hereby agreed by those parties, and decided by the National Joint Council for the Building Industry, under the powers of Clause 5 (e) of its constitution, that the employment of females introduced into the building industry after the signing of this agreement and during the period of the war shall be under the conditions set out below :—

1. Before introducing any female labour into a shop or on to a job, the employer shall consult with the local or district organiser of the Trade Union catering for the workmen normally carrying out the process in question.

2. Before women are actually engaged on the particular process, the appropriate Trade Union official shall be given an opportunity of meeting the requirements of the employer by supplying additional male labour of the appropriate class.

3. No man shall be discharged in order that his place may be filled by a woman; and, if at any time the Trade Union concerned can supply the employer with male labour of the appropriate class, the number of women employed may be correspondingly reduced.

4. No female shall be employed, or regarded as eligible for employment, who is less than 17 years of age.

5. In all districts throughout the country the basic rate of wages for women engaged on craft processes shall be one shilling and sixpence (1s. 6d.) per hour, which shall be payable to all such women after the conclusion of a probationary period of three months. During the probationary period the rate of wages payable shall be :—

1st month ..... 1s. per hour.
2nd month ..... 1s. 2d. per hour.
3rd month ..... 1s. 4d. per hour.

6. In all districts throughout the country the basic rate of wages for all women introduced to carry out work other than on craft processes shall be one shilling and twopence halfpenny (1s. 2½d.) per hour.

7. The rates of wages set out above shall be adjusted from time to time only in accordance with adjustments, national in scope, made hereafter in the building trade standard rates under the War Emergency Wage Agreement of November 22, 1939, by the National Joint Council for the Building Industry, the adjustment being in each case equal to that applied to standard craftsmen's rates.

8. The Rules, Regulations and Working Rules of the National Joint Council for the Building Industry (including extra payments prescribed under National Working Rule 3 and any nationally approved regional and/or local variations) shall apply to female workers in the same manner as to male workers except that the basic rates of wages for all purposes shall be as prescribed in (5), (6) and (7) above.

9. The employer shall provide free to female workers all tools requisite for the processes which such workers are asked to perform; shall supply them, at cost price, with suitable overalls where necessary; and shall arrange appropriate and separate accommodation and suitable female supervision.

10. In all cases where women are asked to undertake operations involving the use of edged tools or operating machines, prior consultation is to take place between the employer and representatives of the Trade Union concerned in regard to :—

(*a*) Any special safeguards necessary to secure safety and to maintain existing recognised practices as far as possible; and

(*b*) The operation of any extra payment currently applying to the operators of a particular machine.

11. Unless previously terminated by mutual consent, this agreement shall continue so long as war and post-war emergency conditions exist.

12. Any notices to the Ministry of Labour that may be necessary in respect of change of practice shall be given by the parties concerned with the change.

A.R.P. SCHEMES

LONDON.

Wandsworth.—B.C. have placed contracts with J. Carmichael, Ltd., J. Kidd and Sons, and A. C. Clark for strengthening 100 shelters.—Contracts have been placed with W. W. Dawes, Ltd., A. C. Clark and J. Carmichael, Ltd., for strengthening 90 surface shelters.—B.C. propose shelters to six libraries, and have placed contracts with J. Garrett and Sons, Ltd. (4) and Mercer Taylor and Co. (2).

PROVINCIAL.

Bedford.—T.C. have placed contract with W. T. Glass and Son for two first-aid depots.

Bromsgrove.—U.D.C. approved shelters to works, for Clements Displays (Bromsgrove), Ltd.

Chesterfield.—T.C. submitted plans prepared by W. Wilson, Boro' Sur. to Regional Commissioner, for 15 wardens' posts, at £1,950.

Farnham.—U.D.C. to erect 100-person shelter in East-st., and two 50-person shelters in Castle-st.

Felling-on-Tyne.—E.C. received sanction to borrow £10,565 for school shelters and £598 for lighting shelters.

Hemsworth.—R.D.C. propose alterations to premises, Ackworth, for treatment and disposal of foodstuffs contaminated by gas. T. S. Finn, Gas Decontamination Officer to the Council.

Hinckley.—U.D.C. to construct static water storage basin. Plans by J. S. Featherston, Sur.

Kendal.—T.C. approved plans submitted by Bradshaw Gass and Hope, 19, Silverwell-st., Bolton, for 21 shelters.

Isle of Ely.—C.C. propose alterations to Wisbech report centre, at £280.

Limehurst.—R.D.C. propose to erect additional Anderson shelters.

Northamptonshire.—C.C. propose cleansing station at Finedon.

Oldham.—T.C. seeking sanction to borrow £700 for provision of cleansing station and strengthening work at fire station. Plans by G. E. Hardy, Boro' Sur.

Salford.—W. Chadwick, Woodville, Mellor, Marple, Ches., has secured contract for static water supply tank at hospital, for T.C.

Tynemouth.—E.C. to strengthen school shelters, at £10,000. Plans by D. M. O'Herlihy, Boro' Eng.

Wakefield.—T.C. have placed contract with H. Hainsworth (Wakefield), Ltd., Wakefield, at £1,974 10s., for a reinforced concrete static water basin. S. G. Wardley, B.Sc., A.M.Inst.C.E., City Eng.

Wednesbury.—T.C. placed contract, at £3,600, with J. Mannion and Co., Sparkhill, Birmingham, for 12 surface shelters, and with J. and F. Wootton, Ltd., Pinfold, Bloxwich, Walsall, at £1,194 for three surface shelters. Contract for supplying steelwork for strengthening existing shelters has been secured by the British Steel Construction Co. (Wednesbury), Ltd., Smith-rd., Wednesbury, at £1,418, and for electric lighting equipment for semi-sunk school shelters to France's Electric, Ltd., Bull Stake, Darlaston, at £250. Plans by A. Booth, Boro' Eng. —M. A. Boswell, School-st., Wolverhampton, have secured contract, at £2,296, for two static water storage basins.

West Riding.—C.C. propose removal of sandbag ramparts and provision of protected accommodation and protection of windows at three County Institutions. A. Booth (A.), County Architect.

West Riding.—P.A.C. propose first-line feeding centre and shelter at St. James' Church Sunday-school, Bingley.

Wolverhampton.—T.C. to instal emergency lighting in shelters.

Worcestershire.—C.C. have accepted tenders of William Weaver, Ltd., The Strand, for seven shelters and baffle walls to cloakroom at Stourbridge-rd. school, at £1,841 15s., and for six shelters at Holloway school, two at Winnetts-la. and baffle wall to cloakroom, at £1,751 3s. 5d.; J. and A. Brazier, Ltd., Worcester-rd., for five shelters and baffle walls at Watt Close schools, at £1,312. (Both of Bromsgrove.)

Workington.—National Fire Service propose fire station.

SCOTLAND.

Glasgow.—Plans in hand for shelters at Stevenson-st., the architect being Thomas Somers.

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TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Bakewell.—Chlorinator house, for R.D.C. : *W. Hetherington, Dunromin, Baslow, nr. Bakewell.

Blyth.—Modernising seamen's hostel, Stanley-st., for Missions to Seamen. J. H. Morton & Son, Martins Bank-chams., Fowler-st., South Shields, architects : *James E. Dover, Croft-rd., Blyth.

Bridlington.—Painting work to houses, for R.D.C. : *H. C. Mowthorpe, Hunmanling, £130; *W. J. Hudson, Flamborough, £85.

Dukinfield.—Extensions to school canteen premises, for T.C. E. N. Stannion, Boro' Sur. : *Halliday & Co., Ltd., Market-pl., Middleton, nr. Manchester.

Easingwold. — Two chlorinator buildings, etc., for R.D.C. Fairbank & Son, M.Inst. C.E., Barclays Bank-chams., St. Helen's-sq., York, civil engineers : *S. W. Swift, Ltd., Portholme Works, Selby, Yorks.

London.—For providing lavatory accommodation at Shoot-up Hill, for Metropolitan Water Board : *R. Talbot & Sons (London), Ltd., 356, Caledonian-rd., N.1.

¶**London (War Dept.)**.—Contracts placed for week ended October 11 :—

Midlothian : Miscellaneous works, Robert Coll and Son, Ltd., 1A, Ravelston-pl., Edinburgh, 4.

Cumberland : Hutting (erection), Gleghorn and Co., Ltd., Burgh-rd., Carlisle.

Yorks: Hutting (erection), J. T. Tarran and Son, Enterpen, Hutton Rudby, Yorks; Wm. Birch and Sons, Ltd., Spen-la., York.

Yorks : Miscellaneous work, J. H. Carr and Sons, 136, Gowthorpe, Selby, Yorks.

Lincs : Hutting (erection) (2 contracts), Wilkinson and Houghton, Ltd., Sidney-st., Cleethorpes, Lincs.

Notts : Building work, C. H. Hill and Sons, Ltd., Victoria-st., Mansfield.

Glam : Hutting (erection), D. Sterling Thomas, Oystermouth-rd., Swansea, Glam.

Berks and Surrey : Hutting (erection), Leonard Yates, Ltd., 73, Clarence-st., Kingston-on-Thames.

Surrey : Miscellaneous work, Burnand and Pickett, Ltd., Woodcote-rd., Wallington, Surrey.

Wilts : Hutting (erection), Hoskings and Pond, West Mills, Newbury, Berks; F. Rendell and Sons, Ltd., St. John-st., Devizes, Wilts.

Co. Antrim : Concrete work, White and Co., Dunowen-gdns., Belfast.

Co. Antrim : Hutting (erection), J. Curran, 32, Barrack-st., Belfast.

Co. Armagh : Miscellaneous work, McGrath Bros., Queen-st., Lurgan, Co. Armagh.

Northumberland. — Hostel at Whalton, T. A. Page, Son and Bradbury, King-st., South Shields, architects : *R. Carse and Sons, Oldgate, Morpeth.

Oldbury.—Garage buildings, for T.C. : *W. Parkes, Ltd., Blackheath, £2,169.

Stourbridge.—Provision of heating boilers and incidental work at town hall, for T.C. : *The Ducal Heating Co., Ambiecote, £412.

Spenborough.—Alterations to humus tanks and effluent chambers at sewage disposal works, for U.D.C. J. Wallbank, Sur. : *J. Horkins and Sons, White House, Liversedge, Yorks, £1,036.

Stoke-on-Trent.—Erection of houses on various sites : *G. H. Wignall, Ltd., Court Lane-gdns., Newcastle, Staffs.

Stourbridge.—Garage buildings, etc., for T.C. G. N. Maynard, Boro' Sur. : *J. Kelley, Alcester-rd., Birmingham 14, £1,282.

Walthamstow. — For messroom, etc., at Hale End-rd., for M.W.B. : *A. E. Wright, Ltd., £214.

Warrington.—Alterations to Tower-bldgs., Bridge-st., for conversion into British Restaurant, for T.C. J. Y. Hughes, Boro' Sur. : *Wright Bros., Denbury, Victoria-rd, Stockton Heath, Warrington.

Worcs.—Dismantling, transporting and re-erecting building for extensions to Church of England Schools, Alvechurch, for E.C. : *J. and A. Millward, Ltd., 30, Alcaster-st., Redditch.

BUILDERS' £1,000,000 SAVINGS DRIVE

THE appeal recently made by Mr. George Hicks, M.P., Parliamentary Secretary to the Ministry of Works and Reconstruction, and Chairman of the War Savings Committee of the Building, Civil Engineering and Allied Trades, to employers to co-operate in raising £1,000,000, the cost of 100 cruiser tanks, as the industry's part in the National Savings Campaign, has already met with a warm response. The Council of the National Federation of Building Trades Employers has recommended its members to give this Savings drive their full support, and individual contractors from all over the country have written to Mr. Hicks, either telling him of their concrete proposals or promising to give every help and facility in order to make the campaign a success.

Several large firms have already fixed their targets. Kirk and Kirk, Ltd., of Putney, are aiming at £10,000, one cruiser tank; and Sir Lindsay Parkinson and Co., Ltd., are also out for £10,000, another cruiser tank. Edmund Nuttall, Sons and Co. (London), Ltd., have decided to save £6,000 in six months on one job alone. Kent and Sussex Contractors, Ltd., of Erith, Kent, are aiming at £2,500 in six months. Wates, Ltd., of London, are holding a special month's drive this month (October) to raise £1,600. J. Laing and Son, Ltd., who are co-operating, have already shown that a high percentage of saving can be effected on a building job. A contract employing 200 men aimed at raising the cost of a barrage balloon, £700, in eight weeks. They did it in seven weeks. Their success represented an average weekly saving of 10s. per employee.

John Mowlem and Co., Ltd., have a special bonus and deduction-from-pay scheme on a number of jobs. It is hoped that each job will set itself a target in the £1,000,000 drive.

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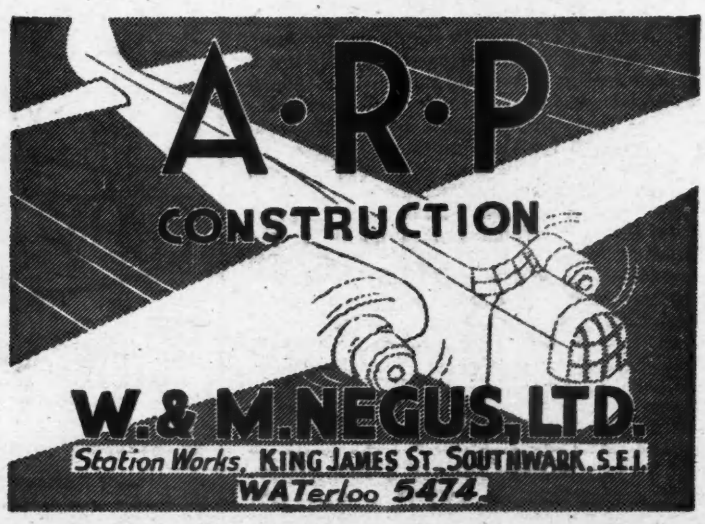
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